MP360
MP370

SERVICE MANUAL

Canon

Service Manual

MultiPASS MP360/MP370
MultiPASS MP360

Canon

Oct 24 2003

Application

This manual has been issued by Canon Inc. for qualified persons to learn technical theory, installation, maintenance, and repair of products. This manual covers all localities where the products are sold. For this reason, there may be information in this manual that does not apply to your locality.

Corrections

This manual may contain technical inaccuracies or typographical errors due to improvements or changes in products. When changes occur in applicable products or in the contents of this manual, Canon will release technical information as the need arises. In the event of major changes in the contents of this manual over a long or short period, Canon will issue a new edition of this manual.

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Caution

Use of this manual should be strictly supervised to avoid disclosure of confidential information.

Symbols Used

This documentation uses the following symbols to indicate special information:

Symbol	Description
	Indicates an item of a non-specific nature, possibly classified as Note, Caution, or Warning.
	Indicates an item requiring care to avoid electric shocks.
	Indicates an item requiring care to avoid combustion (fire).
	Indicates an item prohibiting disassembly to avoid electric shocks or problems.
	Indicates an item requiring disconnection of the power plug from the electric outlet.
Memo	Indicates an item intended to provide notes assisting the understanding of the topic in question.
REF.	Indicates an item of reference assisting the understanding of the topic in question.
	Provides a description of a service mode.
	Provides a description of the nature of an error indication.

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

   In the diagrams, represents the path of mechanical drive; where a signal name accompanies the symbol , the arrow indicates the direction of the electric signal.

   The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1'is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low".(The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (*) as in "DRMD*" indicates that the DRMD signal goes on when '0'.

   In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.
All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine."

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Chapter 1 General Description

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1.1 Features

1.1.1 Overview

0002-2325

Picture Quality Color Printer

High quality printing can be accomplished with the Canon Bubble Jet (BJ) method using the maximum 4800 dpi X 1200 dpi resolution.

Various media can be printed at high speed that is maximum 12 pages/minute in black and white or pages/minute in color.

Convenient ASF

Up to 100 letter, leagl and A4 size sheets, 30 OHP films, and 10 envelops can be set in the ASF.

Copy Function

This machine can be used as a copier which achieves the recording resolution of 600 dpi X 600 dpi for black and white copying or 1200 dpi X 1200 dpi for color copying.

Full Color & 256 Gradation Grayscale Scanner

Using MP Toolbox or MP Drivers (ScanGear and WIA driver), full color and 256-gradation grayscale images with a quality of 25-9600 dpi can be read into a computer.

Photo Printing (MP370 only)

By connecting this machine to a digital camera with USB cable, photos can be printed out directly from the digital camera (without using a computer). Moreover, photos can be printed out from Memory Card by inserting Memory Card into a card slot of the machine.

1.2 Specifications

1.2.1 General Specifications

0002-3982

T-1-1

Item	MP360	MP370
General Specifications		

Item			MP360	MP370
	Printer		YES	<--
	Scanner		YES	<--
	Copy		YES	<--
	Fax		NO	<--
	Memory Card		NO	YES
		Memory Card Slot	-	Direct
		Applicable Media		
		PCMCIA(ATA)	-	NO
		Compact Flash	-	TYPE I/II
		Micro Drive	-	YES
		Smart Media	-	YES
		Memory Stick	-	YES
		SD/MMC	-	YES
		xD-Picture Card	-	YES (via. CF Adapter)
		Data Storage		
		READ	-	YES
		WRITE	-	YES
	Scan To Memory Card		NO	<--
	Photo-Direct print		NO	YES
	Applicable Image	DCF	-	YES
		CIFF	-	YES
		JFIF	-	YES
		TIFF (RAW-RGB/YCC) in compliance with Exif	-	NO
	Print Mode	INDEX	-	YES
		All Image	-	YES
		Select Range	-	YES
		DPOF	-	YES
		2 frames	-	NO
		4 frames	-	NO

Item		MP360	MP370
Power Consumption	Maximum	Approx. 47W	Approx. 47W
	Standby	Approx. 14W	Approx. 14.5W
Noise	Standby	None	<--
	Copy	48 dB(A) max.	<--
Durability	Unit	4,000 sheets or 5 years	<--
	Scanning Section	4,000 sheets	<--
	Printing Section	4,000 sheets	<--
External Dimension	Including Tray	17 7/8(W) in x 21 1/2 in.(D) x 11 1/4 in.(H) (454(W)x547(D)x286(H))	<--
	No Tray	17 7/8(W) in x 14 1/8 in.(D) x 9 7/8 in.(H) (454(W)x358(D)x249(H))	<--
Weight	Standard	Approx. 18.5lb./8.4 kg	<--

1.2.2 Scanner Specifications

0002-7086

T-1-2

Item		MP360	MP370
Reading System		Flatbed	<--
Reading System	Sensor Type	1200dpi staggered CCD	<--
ADF		NO	<--
Resolution	Optical Resolution	1200*2400dpi max	<--
	Reading Resolution	9600*9600dpi max	<--
Gradation			

Item			MP360	MP370
bit	Color	Input	48bit	<--
		Output	24bit	<--
	Gray	Input	16bit	<--
		Output	8bit	<--
Maximum Document Size			8 1/2in. x 11 3/4in. (216mm×297mm)	<--
Effective Scanning Width			8 1/2 in. (214mm)	<--
Local Scan Driver			YES	<--
	TWAIN		YES	<--
	WIA		YES	<--

1.2.3 Printer Specifications

0002-7183

T-1-3

Item		MP360	MP370
ASF		YES	<--
	Size	A4, A5, B5, 4"*6", L size, LTR, LGL	<--
Printing Resolution		4800X1200 dpi	<--
Printing Speed	sec./page	18 ppm (BK) 12 ppm (Color)	<--
Printing Direction		Bi-direction	<--
None printable area (mm)		1/8in.(3.4mm) right/ left edge, 1/ 8in.(3mm) top, 1/ 4in.(5mm) bottom	<--
	Envelop	1/8in.(3.4mm) right/ left edge, 1/8in.(3mm) top, 1in.(26.5mm) bottom	<--
Printing Cartridge		ZF533	<--

Item		MP360	MP370
	Product Name	BCI-24BK BCI-24Color	<--
Ink Remaining Detection		YES	<--
	Detection Method	Warning by counting dots 3 steps (indication)	<--
Paper Capacity		50 pages	<--
Borderless Printing		YES	<--
Silent Mode Printing		YES	<--
CD-R Label Printing		NO	<--

1.2.4 Copy Specifications

0003-3413

T-1-4

Item			MP360	MP370
Copy Print Resolution	Black & White		600*600 dpi	<--
	Color		1200*1200 dpi	<--
Copy speed	Ink Jet	Black & White (Fast)	18ppm	<--
		Color (Fast)	12ppm	<--
Grey Scale			64 scales	<--
Scanning Density Adjustment			YES	<--
	Manual		9 positions	<--
Multiple Copies			99	<--
Reset RE Ratio			YES	<--
	Enlarge	Max.	YES	<--
		5" x 7" to LTR	YES	<--
		4" x 6" to LTR	YES	<--
	Reduction	100%	YES	<--
		A4 to LTR	YES	<--
		Min.	YES	<--

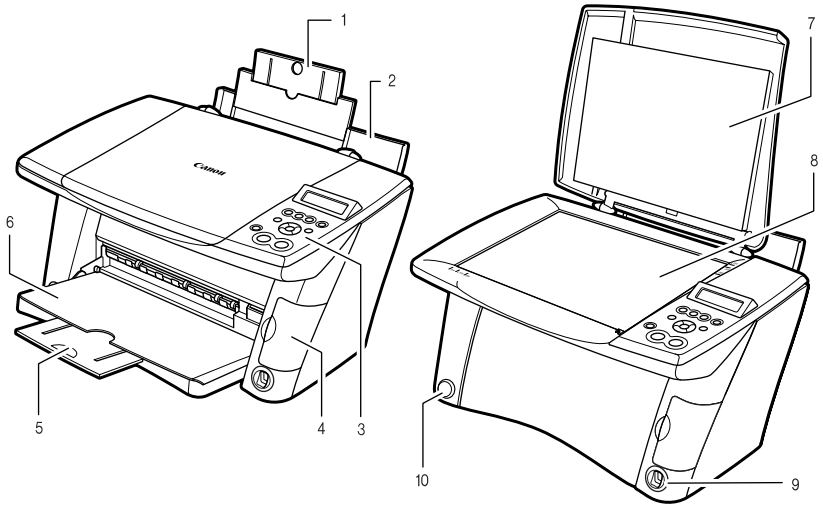
Zoom		YES	<--
	Zooming Range	25-400%	<--
	Auto Magnification Selection	YES	<--
Image Quality	B & W	FAST, NORMAL, FINE	<--
	Color	FAST, NORMAL, FINE	<--
Energy Saving Mode		YES	<--
Image Combination		YES	<--
	2 in 1	YES	<--
	4 in 1	NO	<--
Image Repeat (Auto/Manu)		YES/YES	<--
Mirror Image		YES	<--
Seal Copy		YES	<--
Name Card Copy		YES	<--
Postcard Copy		YES	<--
Borderless Copy		YES	<--
Poster		NO	<--
Fit to page		YES	<--
Entire Document		YES	<--

1.3 Overview

1.3.1 External View

0002-4130

External View



F-1-1

1. Tray extension
Supports print media loaded on the multi-purpose tray. Pull it out before loading print media.

2. Multi-purpose tray
Used to load print media.

3. Operation panel
Displays the operating status of the machine. It is also used to change or check the settings of each function.

4. Card slot cover(MP370 only)
Covers the card slot. Open this cover when inserting a memory card or CF card adapter containing a memory card into the card slots.

5. Tray extension
Supports printouts. Grasping the notch, pull this out before copying or printing. When not being used, keep it closed in the paper output tray.

6. Paper output tray (front cover)
Printouts are output to this tray. Open this cover before you start copying or printing, by pressing the Open button. If closed, the cover will automatically open when the machine starts to copy or print. When not being used, keep it closed in the machine.

7. Document cover

Covers the platen glass. Open this cover when loading a document on the platen glass.

8. Platen glass

Used to load a document to be processed.

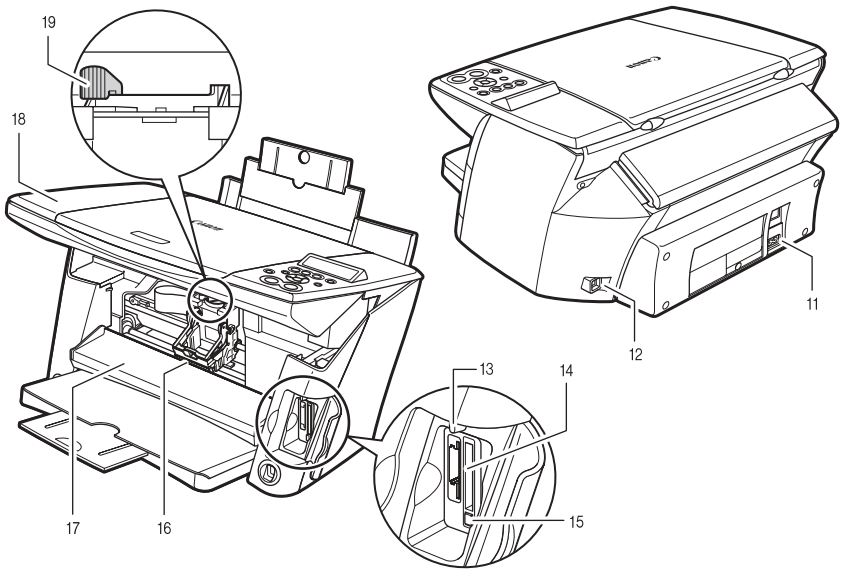
9. Direct print port(for digital camera)(MP370 only)

Used to connect a "PictBridge"-or Canon "Bubble Jet Direct"-corresponding digital camera or digital video camcorder to the machine when printing images directly from the camera.

10. Open button

Press this button to open the paper output tray accommodated in the machine.

Rear view and interior



F-1-2

11. Power connector

Used to connect the power cord of the machine.

12. USB connector (for computer)

Used to connect a computer to the machine when printing from or scanning to the computer.

13. Access lamp (MP370 only)

Lights when a memory card is inserted into the card slot. This lamp flashes while the machine is reading or writing data from/to memory card. When machine finishes reading the card, the lamp extinguishes.

14. Card slot (MP370 only)

Insert a memory card or CF card adapter containing a memory card into these slots when photo printing. The machine is equipped with a right card slot which is used with a button and left card slot (which includes a sub slot for SmartMedia card).

15. Memory card eject button (MP370 only)

Press this button to remove the CF card adapter, Microdrive memory card, or CompactFlash from the card slot.

16. Print head holder

Used to install a print head.

17. Inner cover

Open this cover when setting the paper thickness lever, replacing the ink tanks, or clearing a paper jam.

⚠

Printing with the inner cover open may result in injury.

---

18. Scant unit

Lift this unit until it locks into place when the inner cover needs to be opened.

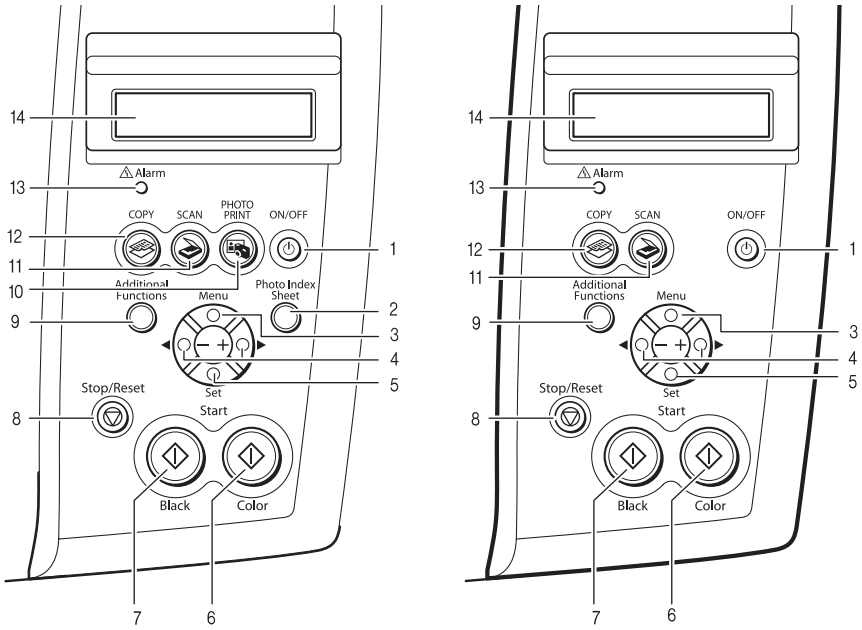
19. Paper thickness lever

Switches the distance between the print head and print media according to the media type. Adjust the lever to the position appropriate for the print media loaded.

1.3.2 Operation Panel

0002-4191

The followings are the names and functions of keys on the operation panel.



MP370 MP360

F-1-3

1. [ON/OFF] key

Turns the machine ON and OFF. Be sure to close the scan unit before turning the machine ON. Press down the key for more than a second to turn the machine OFF.

2. [Photo Index Sheet] key

Switches the machine to Photo Index Sheet mode. (MP370)

3. [Menu] key

Selects menus and accesses the setting sot customize operation of your machine.

4. [◀ (-)], [▶ (+)] key

Scroll through menu selections and increase or decrease the number of copies or the image file number.

5. [Set] key

Selects or confirms settings. Also press this key to recover to ready mode after correcting paper jams and other errors that stop printing.

6. [Color] key

Starts color copying or scanning.

7. [Black] key

Starts black & white copying or scanning.

8. [Stop/Reset] key

Cancels operations and returns the machine to standby mode.

9. [Additional Functions] key

Switches the machine to user mode, in which you can customize the settings, including the ink level warning and maintenance settings.

10. [PHOTO PRINT] key

Switches the machine to photo print mode. (MP370)

11. [SCAN] key

Switches the machine to scan mode. In scan mode, the machine scans a document to your computer according to the settings selected. This key is used when the machine is connected to a computer.

12. [COPY] key

Switches the machine to copy mode.

13. [Alarm] lamp

Flashes when the machine is turned On or OFF, when an error occurs, or when papar or ink has run out.

14. LCD (Liquid Crystal DIsplay)

Displays messages, menu selections, and the operation status.

⚠

* When unplugging the power cord, be sure to press [ON/OFF] first. When you press [ON/OFF], the printhead is protected by the cap to prevent the ink from drying.
* When not using the machine for a long time, to prevent degradation of the printhead, print or copy in both black & white and in color, or perform printhead cleaning, about once a month.
* Numerous nozzles are installed in the printhead for high-precision printing. Just as the uncapped tip of a ballpoint pen or marker becomes dry and unusable of not used for a long period of time, the printhead nozzles become blocked by dried ink. Periodically printing or cleaning the printhead can prevent this blockage.
* The power cannnot be turned OFF with [ON.OFF] when the machine is operating.
* The machine performs a printhead cleaning every time you plug in the machine. This ensures optimum print quality but also consumes a small amount of ink during the cleaning process. For that reason, it is recommended that you turn the machine OFF with [ON/OFF], and then unplug the power cord if necessary.

1.4 Consumables

1.4.1 Ink tanks

0002-3979

Ink tanks
Black:BCI-24 Black
Color:BCI-24 Color

NOTE:
For optimum printing results and to avoid printing problems, Canon recommends that you only use the Canon Ink Tanks described in this guide.

1.4.2 Print Media

0002-2336

The following paper is recommended for use with your machine. Please be sure to follow the guidelines and meet the requirements when loading print media in the multi-purpose tray.

T-1-5

Paper Type	Load Limit	Printer Driver Setting for [Paper Type]
Plain paper	Approx. 100 sheets (20lb. or 75g/m2)	[Plain Paper]
Envelopes	Approx. 10 envelopes	[Envelope]

Canon specialty media
Canon recommends that you use genuine Canon paper to insure optimal quality

T-1-6

Paper Type	Load Limit	Printer Driver Setting for [Paper Type]
High Resolution Paper	Approx. 80 sheets	[High Resolution Paper]
Glossy Photo Paper	10 sheets*1 (Letter/A4) 20 sheets (4"x6")	[Glossy Photo Paper]
Matte Photo Paper	10 sheets	[Matte Photo Paper]

Photo Paper Plus Glossy	10 sheets*1 (Letter/A4/ 5"x7") 20 sheets(4"x6")	[Photo Paper Pro]
Photo Paper Pro	10 sheets*1 (Letter/A4) 20 sheets(4"x6")	[Photo Paper Pro]
T-Shirt Transfers *1	1 sheet	[T-shirt Transfer]
Transparencies	30 sheets	[Transparency]

*1 If the paper does not feed properly, fan the sheets prior to loading them (up to 10) in the multi-purpose tray. Fanning the sheets will prevent them from sticking together.

Note:
For envelopes and T-shirt Transfer, set the paper thickness lever position to the right. For the other paper types, set it to the left.

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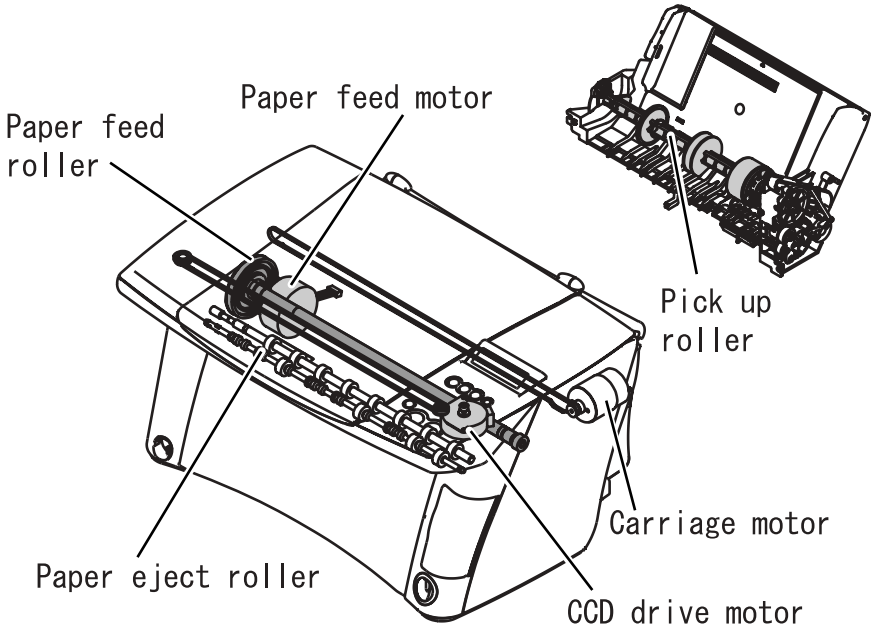
2.1 Component Layout

2.1.1 Printer Mechanical Section

0003-2046

The printer's mechanical parts consist of the followings:



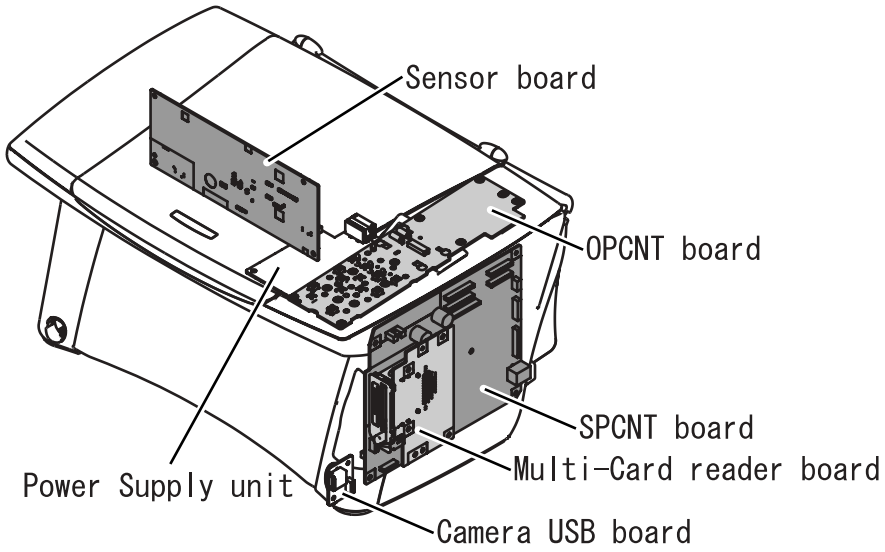
F-2-1

2.1.2 Electrical Layout

0002-5817

The electrical parts are laid out as follows:

- SPCNT board: Controls the entire facsimile machine.
- OPCNT board: Detects keyboard operation and displays machine information.
- Multi-card reader board: Interface with memory card.
- Camera USB board (MP 370 only): Interface from USB connector for printing images directly from a digital camera
- Sensor board (include sub PCB): Detects the state of sensors, and relays the cable to the printer assembly.
- Power supply unit: Supplies power to the units and assemblies.

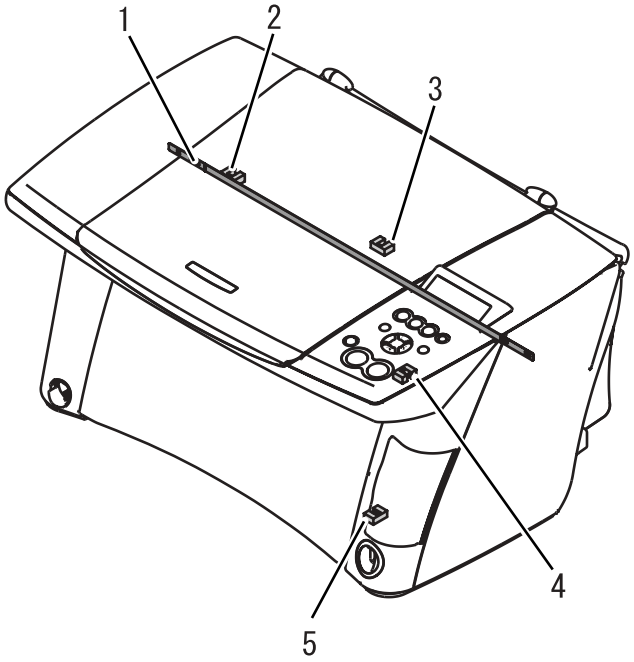


F-2-2

2.1.3 Sensor Layout

0002-5820

The sensors detecting document/paper-fedding condition or ink presence/absence are mounted.



F-2-3

1. Carriage encoder film:
Detects the state of carriage unit.
2. Paper feed encoder film:

Detects the state of paper feed roller.

3. Paper edge sensor:

Detects the state of paper feeding and delivery.

4. Cover sensor:

Detects the state of flatbed unit.

5. ASF sensor:

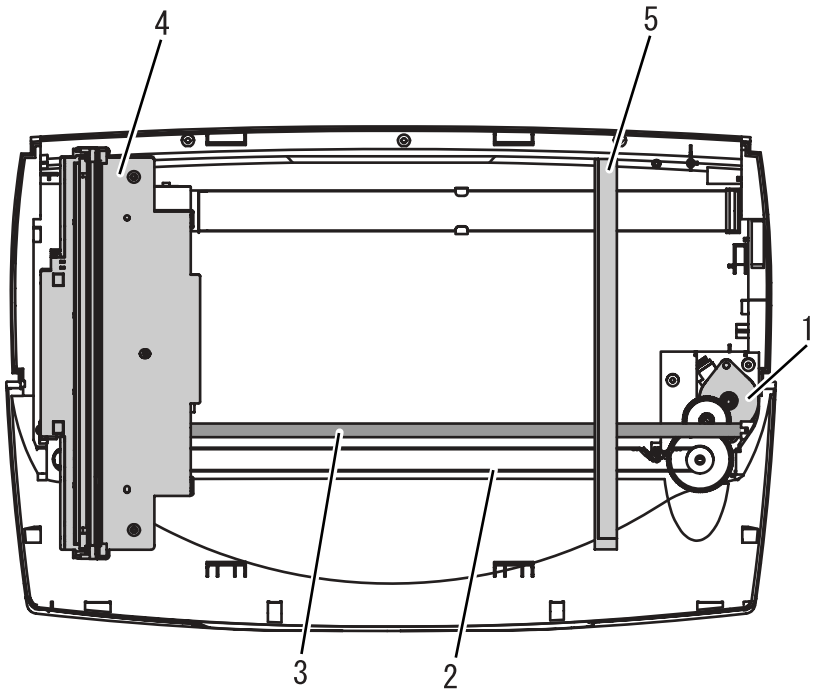
Detects the state of ASF.

2.2 Scanner Mechanism

2.2.1 Scanning Section Layout

0003-2048

The scanning section scans documents that are to be sent or copied.



F-2-4

Names and functions of parts

1. CCD drive motor
The CCD drive motoris used to drive the CCD.

2. CCD drive belt
The CCD drive belt is used to convey the driving force of the CCD drive motor to CCD.

3. CCD shaft
The CCD shaft is used to keep the direction of the driving force of CCD.

4. CCD
The CCD scans the image data from the document, converts it to Red,Green and Blue serial data, and transmits it to the SPCNT board. CCD has 1,200 dpi scanning resolution.

5. White sheet

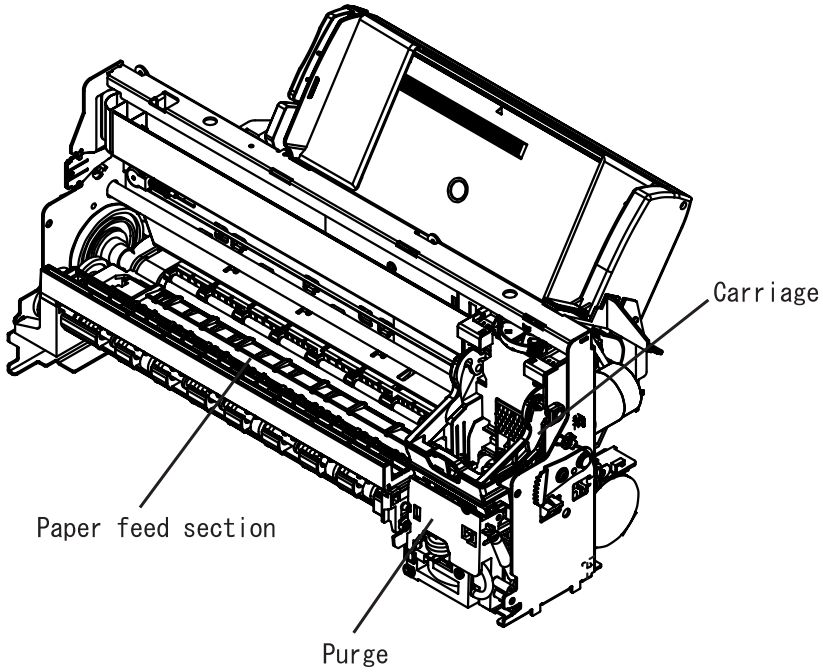
This white sheet is used as a whiteness reference when pre-scanning documents.

2.3 Printer Section

2.3.1 Printer Mechanical Section

0002-0302

The printer’s mechanical parts consist of the BJ cartridge section, carriage section, purge section, and paper feed section. Each part is explained below.



F-2-5

2.3.2 Carriage Section

0002-0326

The carriage secures the printhead including 2 ink tanks in place.
The carriage belt driven by the carriage motor (DC motor) moves the carriage horizontally back and forth across the paper.
Regarding the carriage's position control, the initial position is detected when the carriage goes against the right wall which is the home position. After that, the carriage position is detected by reading the pulse from the encoder film.
The paper spacing position is read from the carriage position when the carriage goes against the left wall.

2.3.3 Purge Section

0002-0328

The purge section, driven by a dedicated purge motor, consists of the wiper, pump, cap and carriage lock.
The wiper maintains the head face surface to ensure high-quality printing. The ink suction feature enables the ink to be readily ejected from the nozzles.
When the BJ cartridge is not in use, the nozzles are protected by caps, and the carriage is locked in place.
The motor's running direction controls the ink suction operation or capping/wiping/valve open/closing operation.

2.3.4 Paper Feed Section

0002-0331

The paper feed section consists of the paper loading section, paper feed section, and paper eject section.

1) Paper Loading Section

Paper is loaded automatically by the ASF (auto sheet feeder).

The feeder is designed accommodate various sizes of paper (as large as LGL), picking up individual sheets and forwarding them to the feeding block.

2) Paper Feed Section

The paper feed section, driven by the paper feed motor, keeps the sheet of paper flat and horizontal on the platen and rotates the feed roller to move the paper horizontally to and beneath the printhead.

3) Paper Ejection Section

After printing, paper is ejected onto the eject tray by the eject rollers.

After the sheet of paper leaves the paper feed rollers, the eject rollers take over to eject the paper.

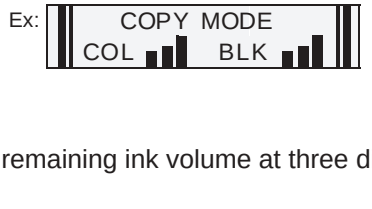
2.3.5 Ink Sensor

0002-1323

This machine is not equipped with the ink sensor.

The machine detecs the remaining amount of ink in the ink tank by counting the number of ink dots discharged. If the number of ink dots dischedged reached a cerain level, an ink low message will be displayed on the LCD. When the copies are not clear or nothing prints, it is time to replace the ink tank. [Did you replace the ink tank] message will be displayed on the LCD after replaicng the ink tank. Select [Yes], and then reset the ink dots counter. If you select [No], ink dots conunter will not be reset therefore will not be able to detect an accurate amount of the ink remained in the tank.

You can check the reamingn amount of the ink in the ink tank using copy key, scan key to change the mode.



F-2-6

2.3.6 Cleaning Mode and Suction Amount

0002-0866

Printhead cleaning is performed effectively and efficiently depending on conditions in order to prevent print errors caused by bubble, dust, or ink clogging.

Cleaning is performed before starting to print except at the following timing:

- Dot count suction: Performed after paper ejection

- Manual cleaning/refreshing: Performed user operation
- Unit delivery: Performed when scanner unit is close.

T-2-1

Cleaning Mode		
Condition	Details	Suction Amount
At delivery	Suction when head is first installed after factory shipment.	0.36(Bk) 0.52(Color)
Dot count suction	When prescribed dot count since the last suctions reached (Bk/colors counted separately)	0.12(Bk) 0.14(color)
Timer suction-0*1 (Bk only)	If 24 to 336 hours have elapsed since previouse suction	
Timer suction-1 (Bk/color)*2	If 180 to 339 hours have elapsed since previouse suction (Bk/color counted separately)	
Manual cleaning (Bk/color/all colors)	* Panel operation (all colors only) * Driver operation(Bk/color/all colors selectable)	
Timer suction-2 (all colors)	If 336 to 1080 hours have elapsed since previouse suction	0.36(Bk) 0.28(Color)
Timer suction-3 (all colors)	If 1080 to 2160 hours have elapsed since previouse suction	0.75(Bk) 0.28(color)
Timer suction-4 (all colors)	If 2160 hours or more have elapsed since previouse suction	1.50(Bk) 0.28(color)
Uncapped for more than one hour when Soft ON (all colors)		0.24(Bk) 0.52(color)
When replacing ink tank (Bk/color)		
When replacing printhead (all colors)	When printhead is removed/ installed.	0.36(Bk) 0.52(color)

Printhead refreshing (Bk/color/all colors)	* User operation (all colors only) * Driver operation (Selectable from Bk, color, and all colors)	1.50(Bk) 0.52(color)

*1: In case of time suction when 24 to 60 hours have elapsed since previous suction, the sequense will be complete after five suctions are performed after factory shipment. After that, timer suction will be performed after 60 to 180 hours elapse.

*2: Suctions will be performed separately for Bk and color with their timer counted separately since previouse suction. Therefore, suction mode may differ between Bk and color in some cases.

Chapter 3 Disassembly and Assembly

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3.1 Attention to be Paid During Assembly/Disassembly

3.1.1 Safety Cautions

0002-0114

Electrical shock

In order to prevent any risk of electrical shock, always be sure to check that the power cord and modular jack have been removed. Also, remove all cables connecting to the computer. When conducting service that requires the main unit to be powered on, be sure to wear some kind of earthing, such as a wrist strap, etc. Otherwise, there is a danger of conduction and electrical shock.

Parts which are generally likely to cause electrical shock are as follows:

* Power supply unit primary (supplied with AC voltage)
* Telephone line primary
* LBP engine high voltage contacts (for high voltage during developing and transfer)

High temperature

In order to prevent burns during disassembly, allow at least ten minutes, after the power has been switched off, for the high temperature components to cool down.

General high temperature components are as follows:

* Motors
* Power supply unit
* Elements on driver ICs, etc., on PCBs (in particular, ICs with heatsinks)
* BJ cartridge aluminium plate (for BJ cartridge engine models)
* Fixing unit and peripheral covers (for LBP engines)

Battery Replacement

The batteries must be replaced correctly to avoid explosion. Do not replace any battery with one not indicated for the machine, ie., use one of the same type or equivalent. Be sure to dispose of used batteries according to local laws and regulations.

Fire

It is dangerous to throw lithium batteries and parts and components containing flammable substances, such as cartridges, etc., into fire. Such parts and components must be disposed of in accordance with local laws and regulations.

Ignition

When using solvents such as alcohol, etc., while conducting service, there is a danger of fire igniting from heat from internal circuitry and from sparks. Before using any such solvents, be sure to switch of the power and allow time for high temperature parts to cool down. Make sure that there is sufficient ventilation when working with solvents.

Movable parts

In order to prevent accidents with movable parts, be sure to remove the power cable when conducting service that requires disassembly. Also, take care that personal accessories and hair, etc., are not caught in any moving parts.

3.1.2 General Cautions

0002-0386

Damage due to electrostatic discharge

This machine contains contact sensors and printed circuit boards that use ROMs, RAMs, custom chips and other electronic components that are vulnerable to damage by electrostatic discharge.

Be careful to avoid any damage from electrostatic discharge when conducting service that requires disassembly.

⚠

Static electricity warning

Electrostatic discharge can destroy electronic components and alter electrical characteristics. Plastic tools and even your hands, if they are not earthed, contain sufficient static electricity to damage electronic components.

The following materials may be used as countermeasures against electrostatic discharge:

* An earthed, conductive mat,
* An earthed writs-strap,
* Crocodile clips for the purpose of grounding metallic parts of the main unit.

For service conducted on the user's premises, etc., where such countermeasure materials are not available, the following countermeasures may be employed.

* Use anti-static bags for the storage and carrying of PCBs and electrical elements.
* Avoid silk and polyester clothing and leather-soled shoes, favoring instead cotton clothes and rubber-soled shoes.
* Avoid working in a carpeted area.
* Before beginning the work, touch the grounded earth terminals of the main unit in order to discharge any static electricity.
* Use a wrist-strap and earth the metal parts of the main unit.
* PCBs and electrical elements must be lifted around the edges and their terminals must not be touched.

⚠

Caution against electrical shock while working with power on

In cases where service must be carried out with power on, via a connected power cable, be sure to wear an anti-static wrist-strap or other earth, in order to prevent an electrical path being created through your body.

Application of grease

Grease must not be applied to any parts that are not so designated. If grease comes into contact with the rubber cap

of the purge unit or wire, the BJ cartridge nozzle may become blocked and the cartridge rendered unusable. Also, never use any other than the specified type of grease. Otherwise, plastic parts and rubber parts may melt or be deformed.

Attaching and removing cables

Attaching and removing cables with the power still on may cause breakdowns and should be avoided. In particular, flat cables are likely to cause short circuits. When attaching or removing cables, always be sure to turn the power off.

3.1.3 Product-inherent Cautions

0002-0290

Prevention of ink-soiling

Be careful when handling the BJ ink cartridge nozzle, the ink pad, head cap, head wiper and waste ink pad. Residual ink may soil the main unit, working surfaces, your hands and clothes, etc. The ink is water-soluble, but because it contains pigments, it will not wash out of clothes.

The ink does not contain any substances that are harmful to humans, but does not contain organic solvents (isopropyl alcohol 67-63-0, diethylene glycol 111-46-6, glycerin 56-81-5 and ethylene glycol 107-21-1). If the ink should accidentally get into someone's eyes, rinse the affected eye with plenty of clean water and seek medical attention. If a large quantity of ink is accidentally swallowed, seek medical advice immediately. In such a case, let the doctor know exactly what is written on the BJ cartridge label.

Conductivity of the ink

The ink used in the BJ cartridge is conductive. This means that, if the ink leaks, mechanical parts should be wiped with a dampened paper towel or similar and electrical circuits wipes with issue paper so that all ink is removed from below the IC chips.

If power is switched on while ink is leaking on the electrical circuits, the circuitry may short out and be damaged. If ink is leaking, the power must be switched off.

Caution when handling the carriage encoder film

(1)Do not leave grease on the cartridge encoder film (code strip)

The presence of grease will prevent correct reading of the slit in the carriage encoder film, thus causing an error. If grease is found on the cartridge encoder film, clean it thoroughly using alcohol.

(2) Do not bend or scratch the carriage encoder film (code strip).

If the carriage encoder film has been bent until it shows a white line or a scratch is found on it, replace it.

(3) Stretch the leaf spring excessively when removing/ fitting the carriage encoder film (code strip).

The carriage encoder film is secured in place under tension by means of a leaf spring. If the spring is stretched excessively in the

direction of the arrow, you will not be able to secure the cartridge encoder film correctly next time.

You will have to stretch the leaf spring, but do not do so in excess when removing or fitting it.

Caution when replacing the waste ink absorber

The waste ink absorbers are designed to sop up any excess ink ejected during the cleaning operation or during ink

squirting for maintenance, in order to maintain the good printing quality of the BJ cartridge. The volume of ink absorbed is counted and these data stored in the EEPROM on the SPCNT board. Once the volume is judged to have reached 100%, the message "CHECK PRINTER" (error code ##342) will be displayed, and printing will stop, in order to ensure that the volume of ink absorbed does not exceed the allowed limit. To clear this error, you need to replace the waste ink absorbers and rest the waste ink volume counter.

Removing the Purge Unit

When removing the purge unit, the carriage shaft must be removed in advance.

The purge unit cannot be removed without first removing the carriage shaft. If the purge unit is removed forcibly, it may be damaged, or the carriage shaft may be damaged, causing uneven print density in printouts.

3.1.4 Caution when replacing the SPCNT board

0002-0905

To replace the SPCNT board, perform the following:

a) Caution before replacing

You will need to execute 'All clear' after replacement. Be sure to print out the following data as necessary.

a-1) Image Data Stored in the Image Memory

⚠

The image data stored in the image memory will be lost as soon as the power is turned off. Check to be sure that all data has been printed out before turning off the power.

---

a-2) User reports

Press the Menu key; then, use the ◀▶ key to select 'REPROT/LIST', and use the ◀▶ key to select the type of list to print out.

b) Caution after replacing

1) When you have replaced the SPCNT board, be sure to execute 'All clear'. For instructions, see All Clear (Action in the Event of Abnormality.)
2) After you have executed 'All clear', enter the appropriate data as necessary by referring to the list you have previously printed out.

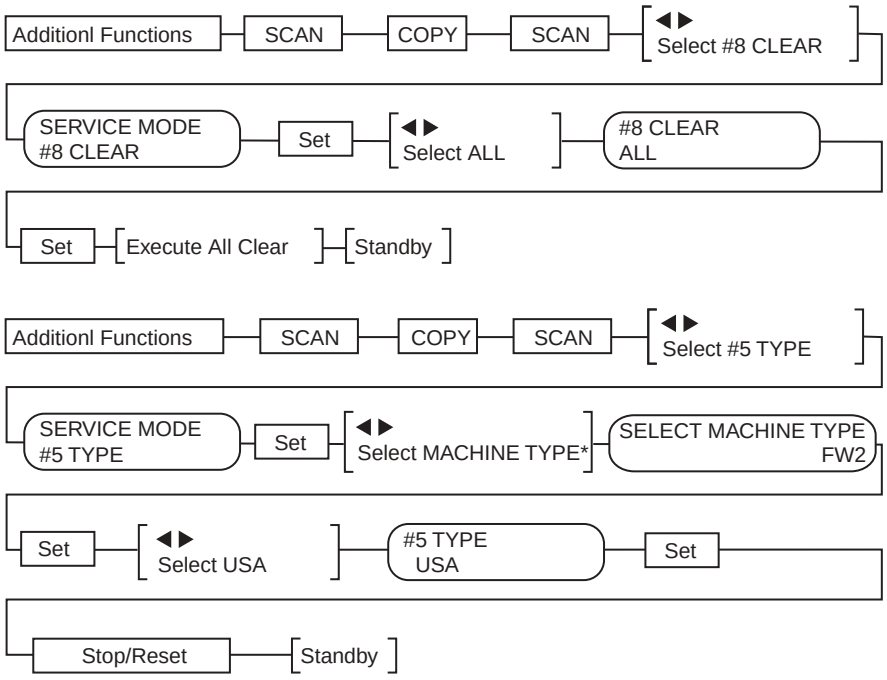
3.1.5 All Clear (Action in the Event of Abnormality)

0002-0909

In the event of extreme noise or shock, etc., in very rare cases, the display may go out, and all the keys become inoperable. In that case, perform an All Clear. This operation returns all values and settings to their default settings. However, as all settings, such as received images and user data, service data, etc., will be re-initialised, be sure to

note down any settings that you will need to re-enter later.

After you have executed 'all clear', set the type setting (model setting and country setting).



*: FW1=MP360、FW2=MP370

F-3-1

3.1.6 Shipping the Main Unit

0002-0422

If you must ship the machine as after making repairs, be sure to go through the following:

(1) See to it that the BJ cartridge (printhead) remains fitted in the carriage.

(2) Press the On/Off key to turn off the power, and fix the carriage in its home position; then, disconnect the power cord.

⚠

If you leave the BJ cartridge (printhead) alone on its own, the ink can start to cake. Be sure to keep the BJ cartridge fitted in the carriage in the course of shipment.

On the other hand, if the carriage is not fixed to its home position, it can move right/left during shipment, possibly importing stress on the paper feed encoder film. Check to make sure it is fixed in its home position.

3.2 Assembly and Disassembly

3.2.1 Disassembly/Assembly

0002-0424

As a rule, refer to the Parts Catalog for instructions on how to disassemble and assemble the machine. The discussions that follow are limited to those components that are thought to require replacement relatively more often than others.

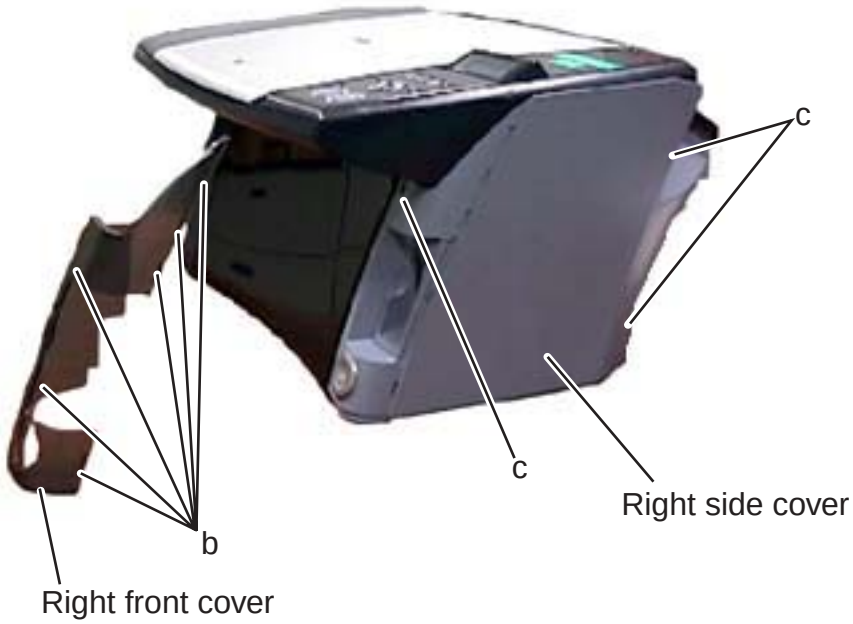
3.2.2 Basic Disassembly Procedures

0002-5250

(1) Remove the 5 screws (a), and detach the rear cover.

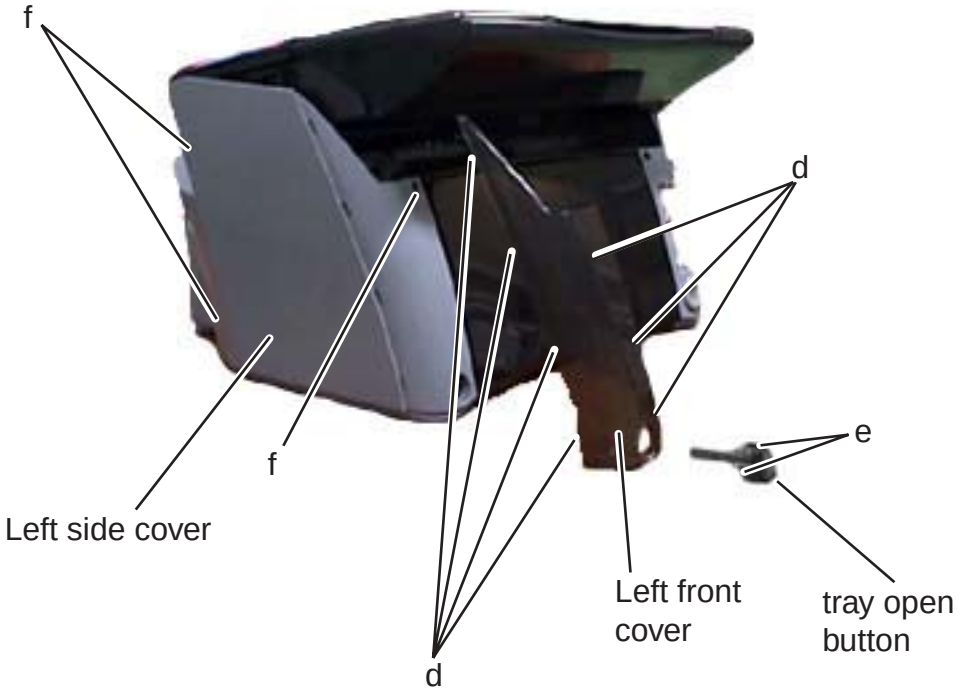
F-3-2

(2) Free the 6 claws (b), and detach the right-front cover.
(3) Free the 3 claws (c), and detach the right side cover.



F-3-3

(4) Free the 6 claws (d), and detach the left-front cover.
(5) Free the 2 claws (e), and detach the paper output tray open button.
(6) Free the 3 claws (f), and detach the left side cover.

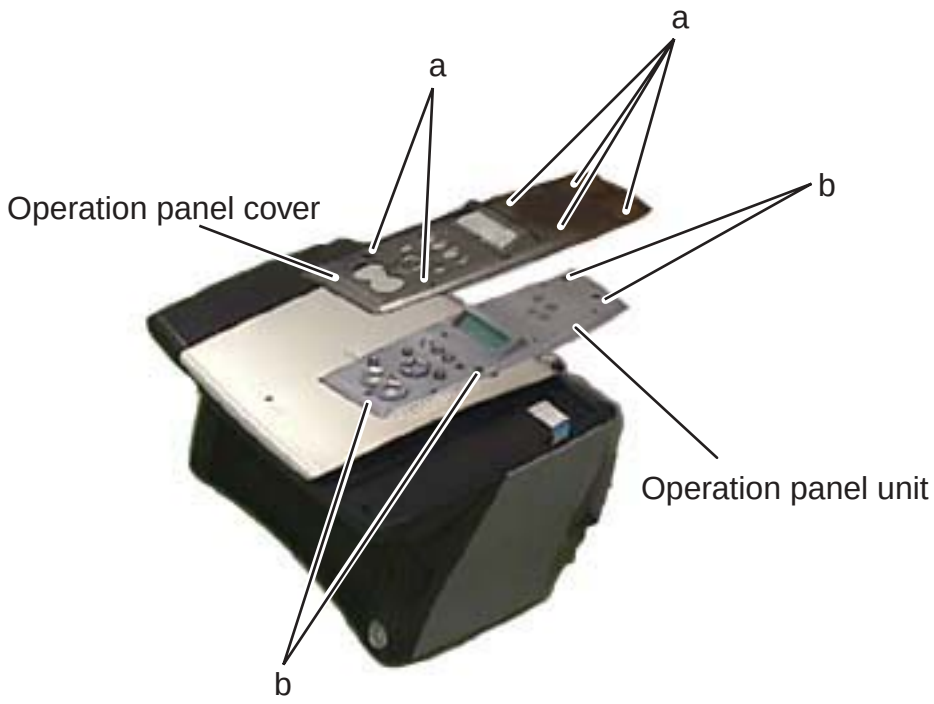


F-3-4

3.2.3 Operation Panel Unit

0002-5257

(1) Free the 6 claws (b), and detach the operation panel cover.
(2) Remove the 4 screws (c).
(3) Disconnect the connector J1 from the operation panel unit, and detach the operation panel unit.

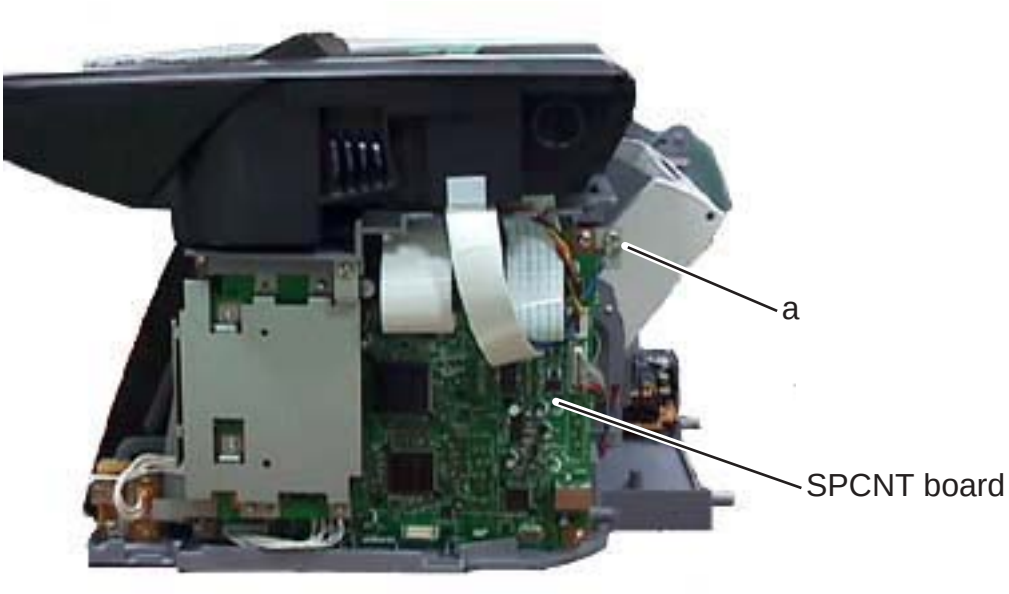


F-3-5

3.2.4 Scanner Unit

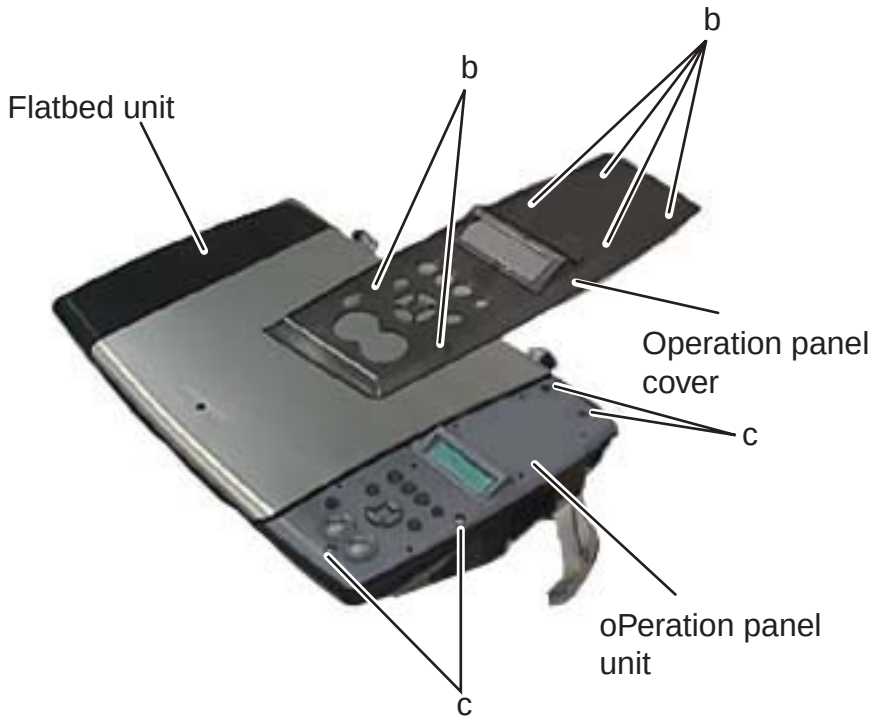
0002-5262

(1) Perform Basic Disassembly Procedures.
(2) Remove the screw (a), and detach the grounding cable.
(3) Disconnect the connectors JCCD1, JCCD2 and JPANEL1 of the SPCNT board.



F-3-6

(4) Detach the scanner unit.
(5) Free the 6 claws (b), and detach the operation panel cover.
(6) Free the 4 screws (c), and detach the operation panel unit of the scanner unit.

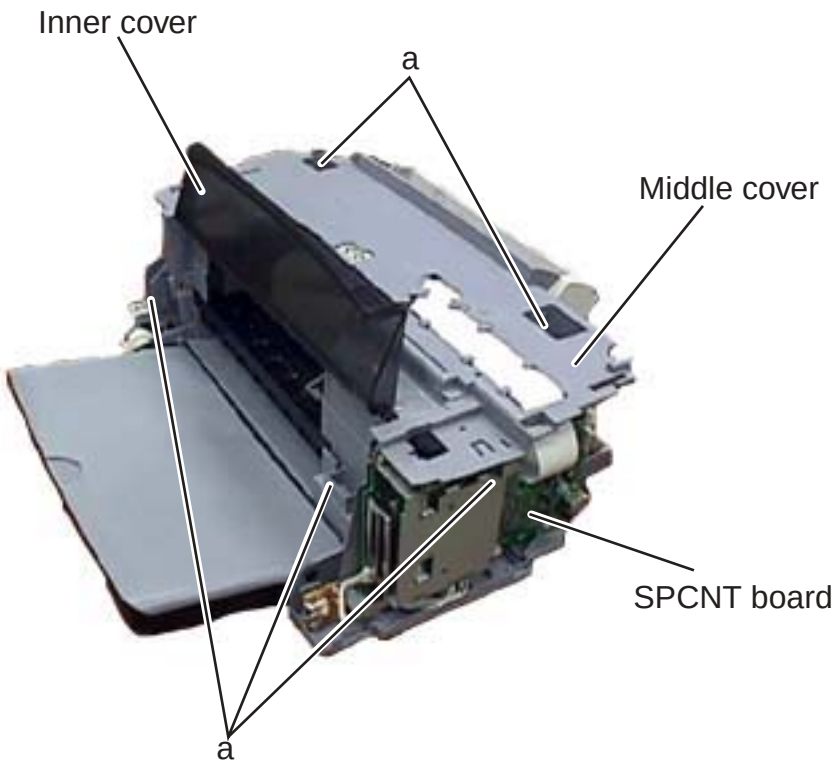


F-3-7

3.2.5 SPCNT Board

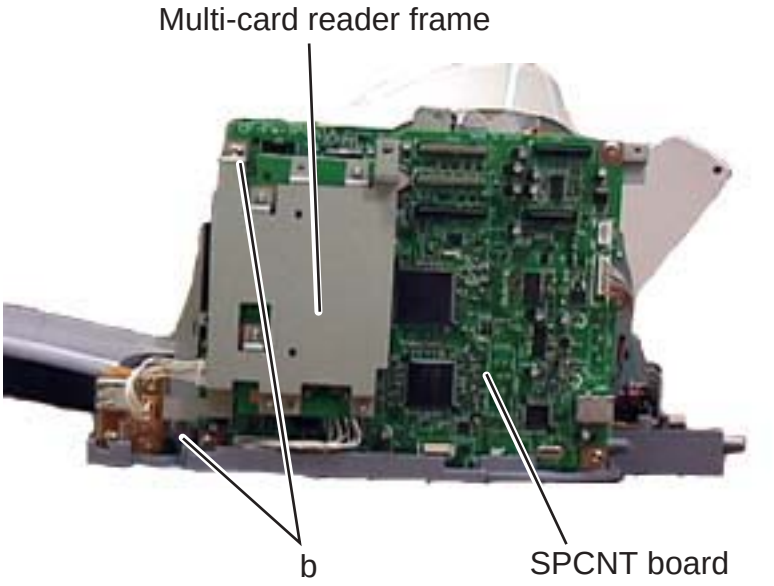
0002-5266

(1) Perform Basic Disassembly Procedures.
(2) Perform the scanner unit's disassembly procedures (1) through (4) to detach the scanner unit.
(3) Detach the inner cover of the middle frame.
(4) Disconnect the connectors JHEAD1, JHEAD0, JEXIT1 of the SPCNT board.
(5) Remove the 5 screws (a), and detach the middle frame.
(6) Disconnect the connector JCARD1, JPSU1 of the SPCNT board.



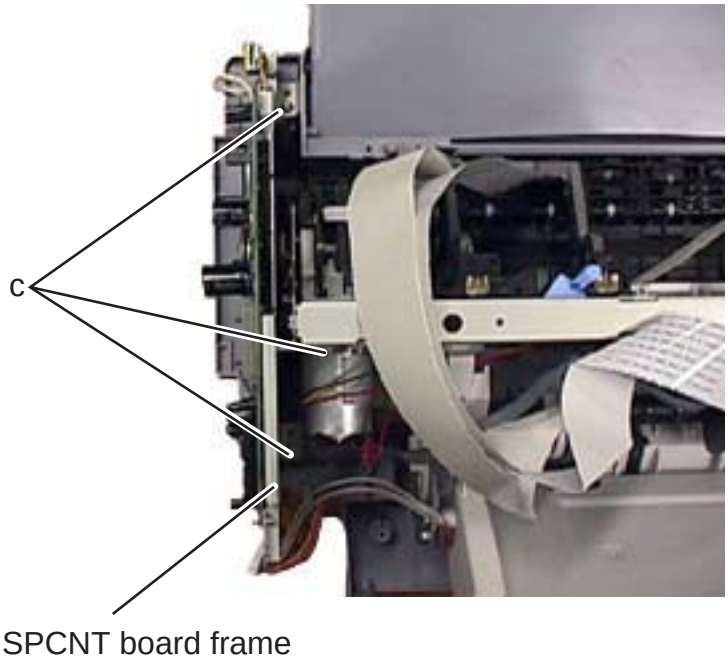
F-3-8

(7) Remove the 2 screws (b), and detach the multi-card reader board including its frame.



F-3-9

(8) Remove the 3 screws (c), and detach the SPCNT board including its frame.



F-3-10

3.2.6 Print and ASF ass'y

0002-5279

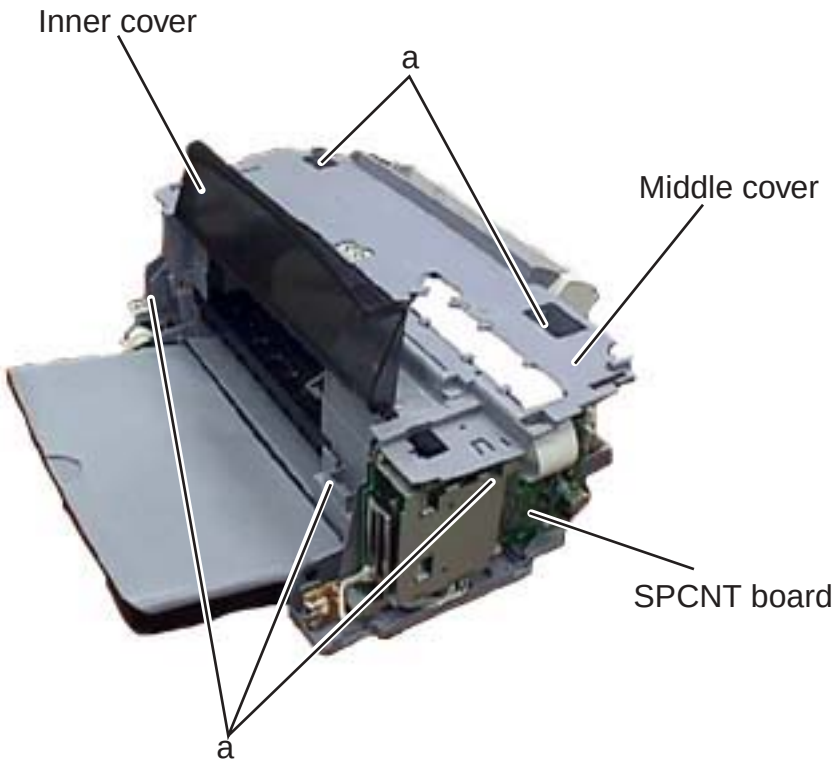
(1) Perform Basic Disassembly Procedures.

(2) Detach the scanner unit.

(3) Detach the inner cover of the middle frame.

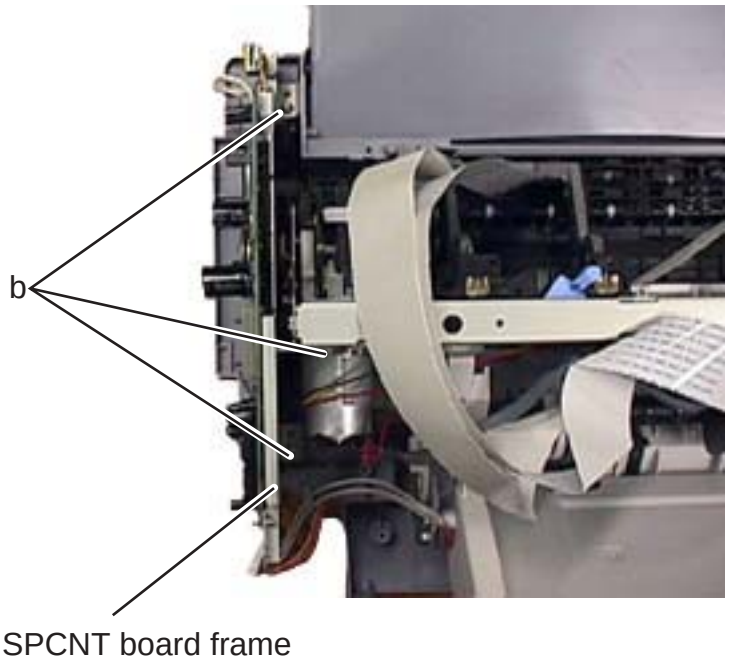
(4) Disconnect the connectors JHEAD1, JHEAD0, JEXIT1, and JPSU1 of the SPCNT board.

(5) Remove the 5 screws (a), and detach the middle frame.



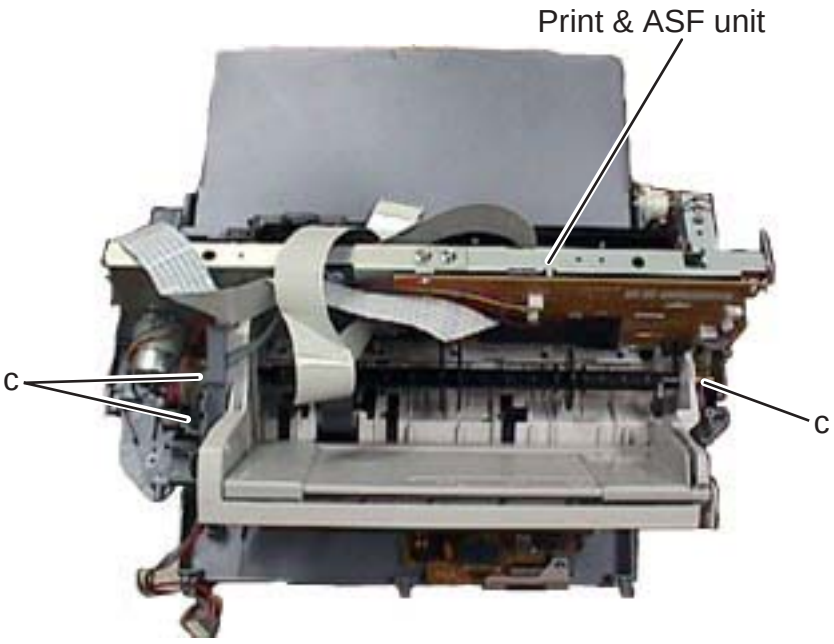
F-3-11

(6) Remove the 3 screws (b), and detach the SPCNT board including its frame.



F-3-12

(7) Disconnect the connector JTRY1 of the SENS board.
(8) Remove the 3 screws (c), and lift the print and ASF ass'y to detach it.



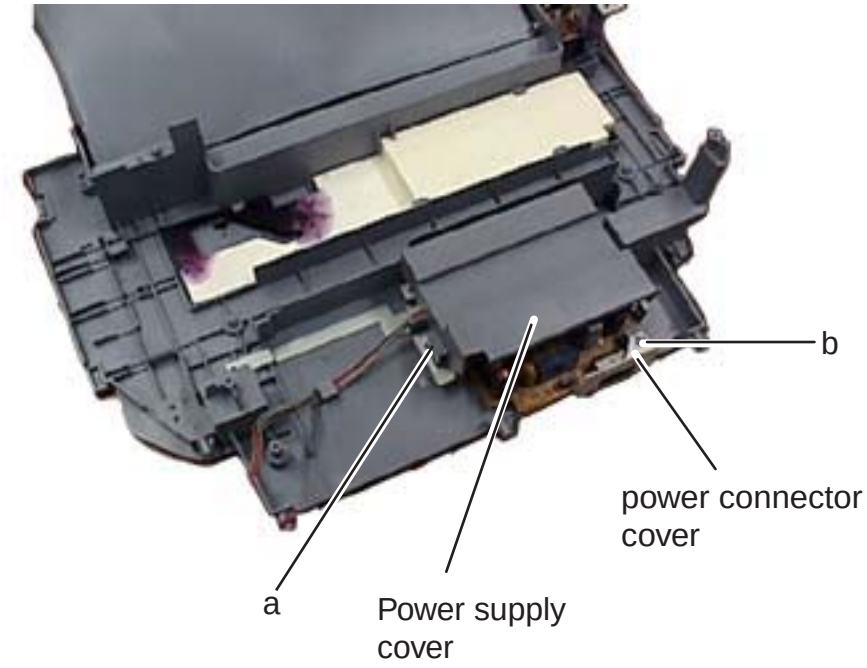
F-3-13

3.2.7 Power Supply Unit

0002-5288

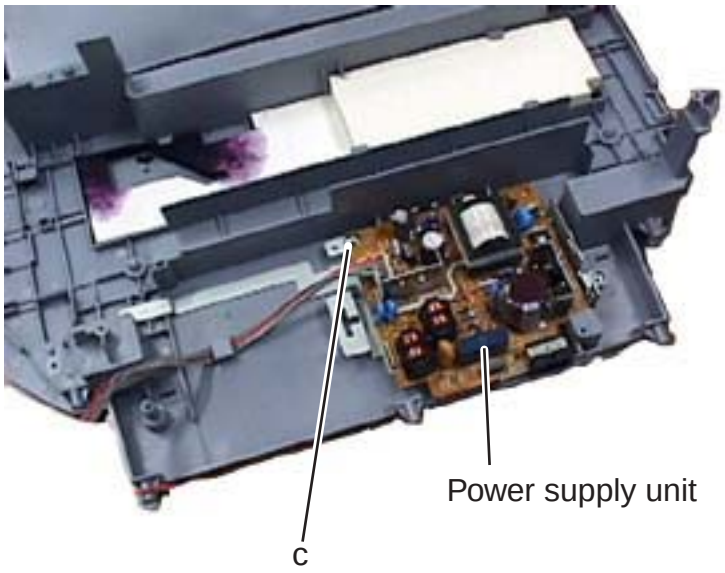
(1) Perform Basic Disassembly Procedures.

(2) Detach the scanner unit.
(3) Detach the print and ASF ass'y.
(4) Free the claw (a), and detach the power supply cover.
(5) Remove the screw (b), and detach the power connector cover.



F-3-14

(6) Remove the screw (c), and detach the power supply unit.



F-3-15

Chapter 4 Maintenance

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4.1 Maintenance

4.1.1 Consumables

0002-0433

T-4-1

Level	Consumable	When
User	Ink tank (BCI-24Black / BCI-24Color)	When ink in the ink tank runs out.
Service Person	BJ cartridge	Uneven printing even after performing head cleaning several times with ink remained in the tank.

4.1.2 Cleaning

0002-0565

Please refer to **How to Clean Parts** for cleaning procedures.

T-4-2

Level	Location	When
Users	Exterior	When it gets dirty
	Document glass	When it gets dirty
	Platen	When the platen is stained with ink
	Roller	When papers are not fed/ejected properly
Service Person	None	

4.1.3 Periodic Inspection

0002-0474

None

4.1.4 Periodic Replacement Parts

0002-0476

None

4.1.5 Adjustment Items

0002-5585

The following adjustments must be made on this fax.

T-4-3

Item	Indication
Printhead Position Adjustment	When the vertical lines shift during Bi-directional printing.

4.1.6 General Tools

0002-0583

T-4-4

Tool	**Use**
Phillips screwdriver	Removing/inserting screws
Flat bladed screwdriver	Removing/inserting screws
Precision Phillips screwdriver	Removing/inserting screws
Precision flat bladed screwdriver	Removing plastic tabs
Tweezers	Removing coil spring
Isopropyl alcohol (IPA)	Cleaning the cleaning location
Pliers, needle nose	Driving retaining ring

4.1.7 Special Tools

0002-0586

T-4-5

Tool	Use	Part No.
Grease (FLOIL KG107)	Apply to specified parts	QY9-0057

Grease (PG-641)	Apply to specified parts	CK-0562
Grease (IF-20)	Apply to specified parts	CK-8006

4.2 How to Clean Parts

4.2.1 How to Clean Parts

0002-0504

NOTE:
If the parts above are very dirty, wipe with a cloth moistened with IPA (isopropyl alcohol).

⚠

Precautions when Using IPA
When cleaning wit IPA, take care to prevent the IPA from splashing high-temperature parts. If IPA splashes high-temperature parts, leave for at least three minutes to allow the IPA to evaporate.

4.2.2 Exterior

0002-0507

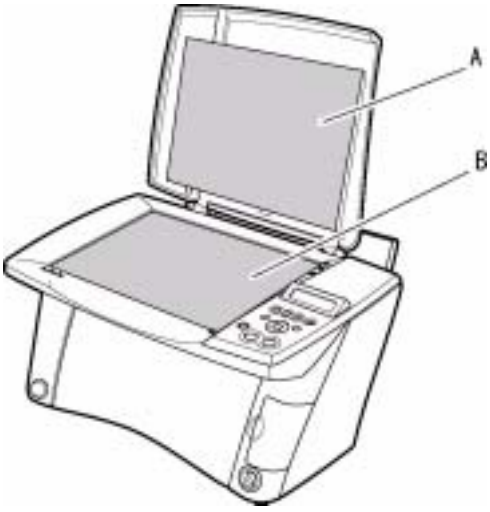
Main Unit Outer Covers
Wipe with a dry, soft cloth.

4.2.3 Scanning Unit

0002-0515

Document Glass
Open the pressure plate. Dampen a clean cloth and wring it thoroughly. Wipe the document glass with the cloth and dry the glass well. You may use a mild detergent diluted with water if the glass is very dirty.

Document Cover
Open the pressure plate, and wipe with a dry soft cloth.



F-4-1

A: Document Cover
B: Document Glass

4.2.4 Printer

0002-2366

Cleaning the roller

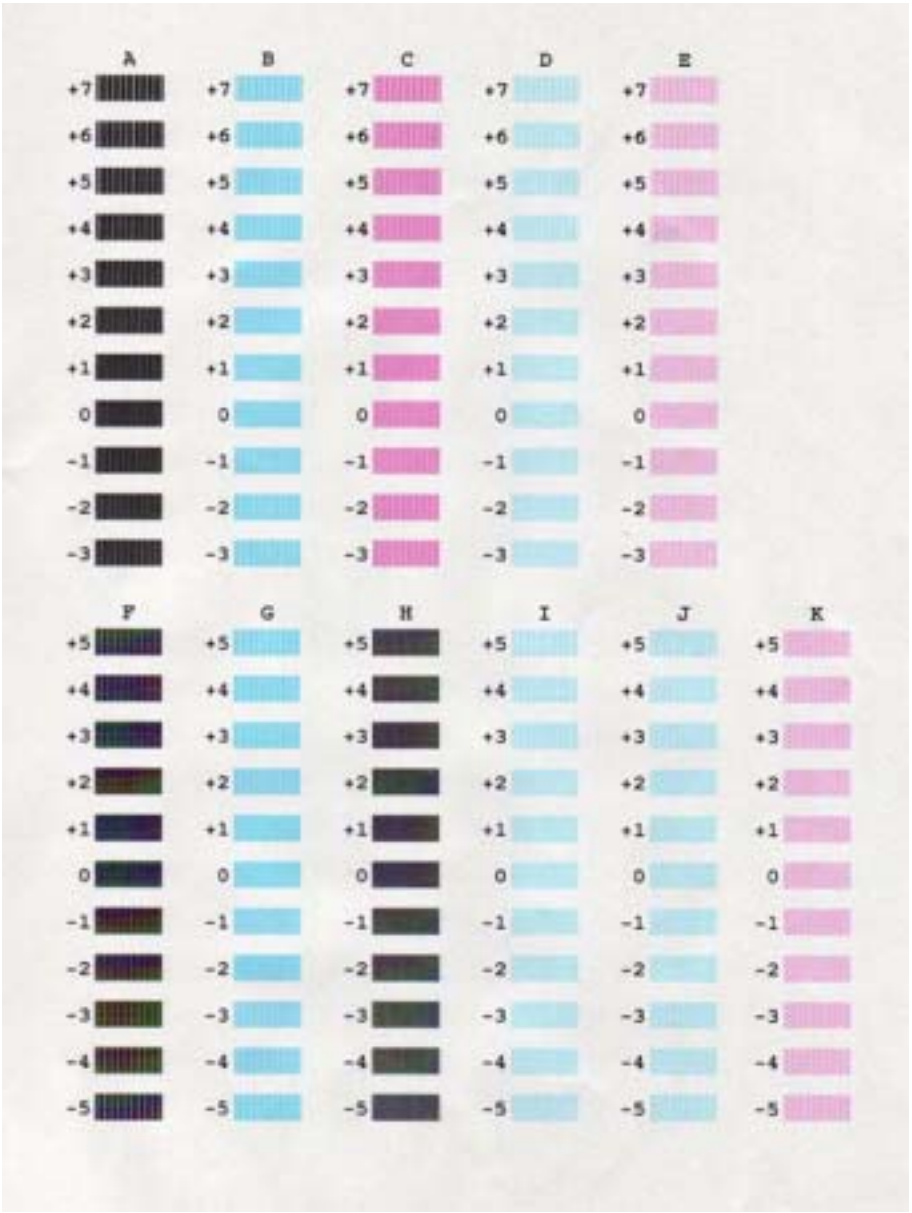
Remove all the media from the multi-purpose tray, and then press the [User Mode] key. Select [MAINTENANCE] by pressing cursor keys. Select [ROLLER CLEANING] by pressing cursor keys, and then press the [Set] key. Repeat this procedure twice after the roller cleaning is complete. Load A4 or LTR plain papers into the multi-purpose tray, and then perform the roller cleaning three times.

4.3 Adjustment

4.3.1 When Adjustment of the Printhead Position is Required

0002-1884

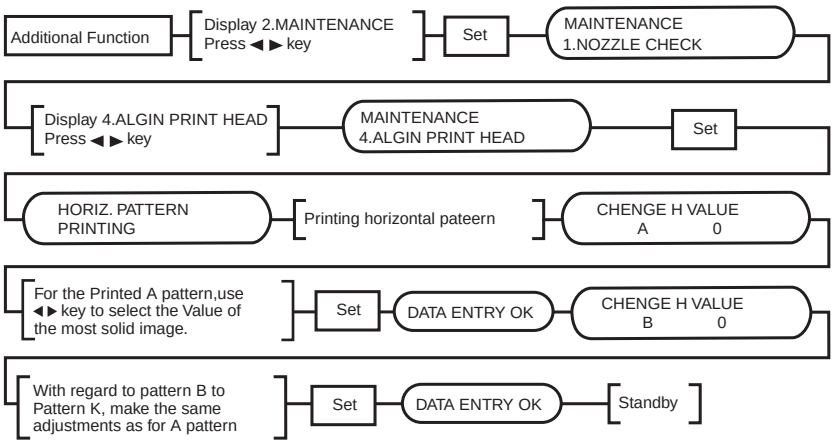
When replacing the printhead, the point of ink ejection may be off, preventing clean characters, dependiing on the state in which printhead is installed. In order to eliminate this drift, it is necessary to adjust the head position after attaching the printhead. Set A4, LTR or anything larger than that on the Auto Sheet Feeder, and perform head position adjustment.



F-4-2

Note:

Be sure to set A4 or LTR-sized paper in the ASF before printing the head position adjustment pattern. Using printing paper smaller than the printing area of the data when performing the head position adjustment print may contaminate the platen with ink.



F-4-3

4.4 Service Switches

4.4.1 Hardware Switches

0002-0525

There is no service hardware switche on the Circuit board.

4.4.2 Service Data Setting

0002-0528

Service data can be checked and changed with items on display menus. The effective SSSWs/parameters and their default values in this fax machine are shown in **Service Data Setting**. Detailed description of each SSSW/parameter is not given in this manual except the new SSSWs/parameters added to this model. See **G3/G4 Facsimile Service Data Handbook (Rev.1)** (supplied separately) for details of them. The new switches for this model are described in **New SSSWs/Parameters Added to This Model**.

#1SSSW (Service soft switch settings)

These setting items are for basic fax service functions such as error management, echo countermeasures, and communications trouble countermeasures.

#2 MENU (MENU switch settings)

These setting items are for functions required during installation, such as NL equalized and transmission levels.

#3 NUMERIC Param. (NUMERIC parameter settings)

These setting items are for inputting numeric parameters such as the various conditions for the FAX/TEL switching function.

#4 NCU (NCU settings)

These setting items are for telephone network control functions such as the selection signal transmission conditions and the detection conditions, for the control signals sent from the exchange.

#5 TYPE (TYPE setting)

The type setting makes the service data conform to a specific country communications standards. There is only one setting item in this block.

#6 GENESIS (UHQ function setting)

These setting items are for scanned image processing such as edge enhancement and error diffusion processing.

#7 PRINTER (PRINTER function settings)

These setting items are for basic printer service functions such as the reception picture reduction conditions. Also there is an item for resetting the printer section without switching the power off-on.

#8 CLEAR (Data initialization mode)

Various data is initialized by selecting one of these setting items. There is a setting item for checking/inputting the total number of pages printed and total number of pages scanned by this fax.

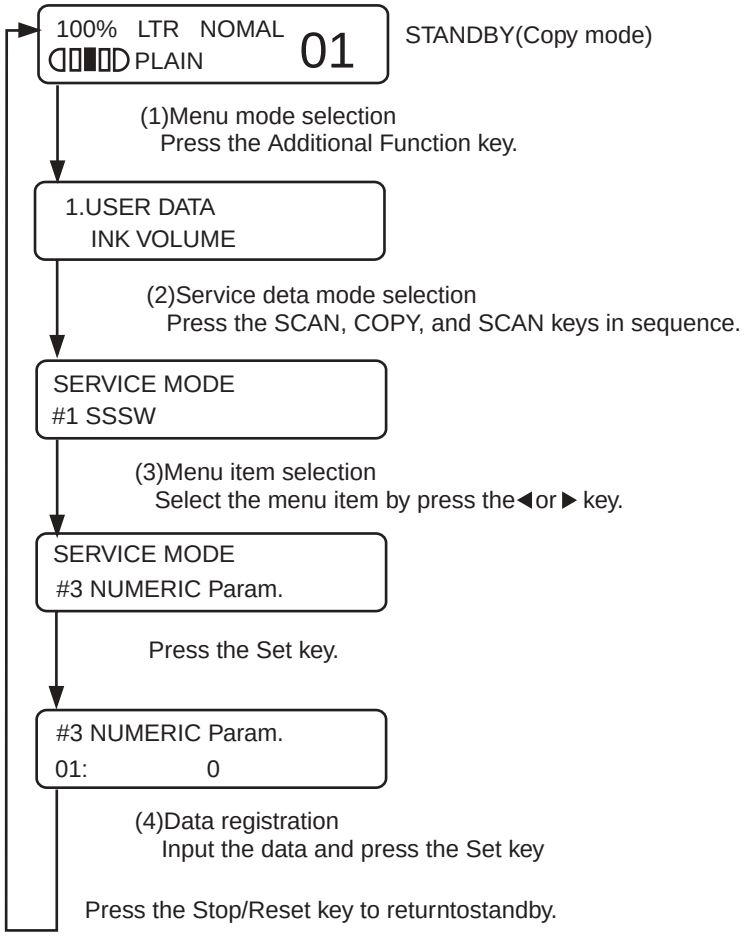
#9 ROM (ROM management)

ROM data such as the version number and checksum are displayed.

4.4.3 Service Data Registration/ Setting Method

0002-5610

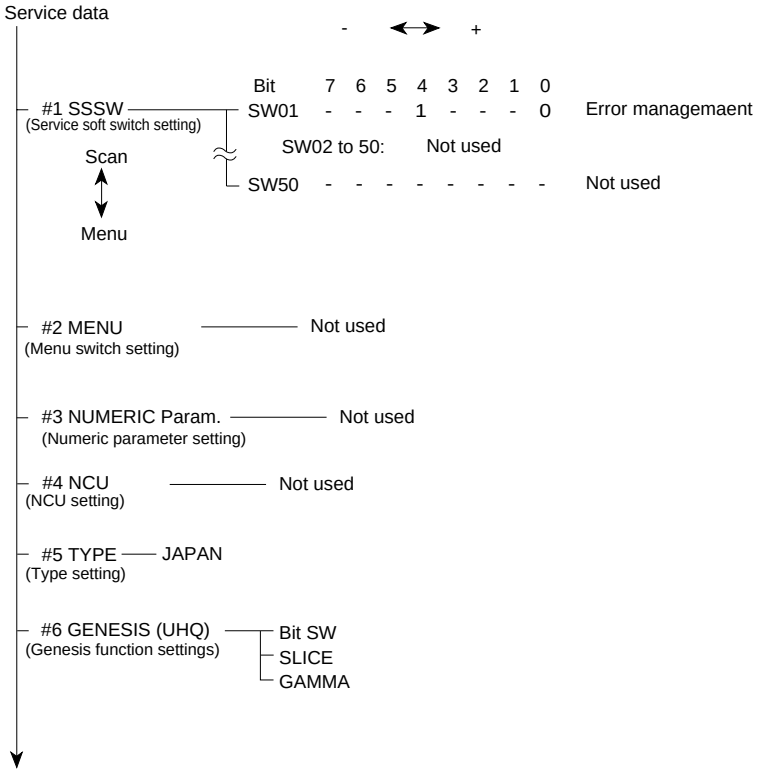
Service data can be registered/set by the following operations:



F-4-4

4.4.4 Service Data Flowchart

0002-5611



F-4-5

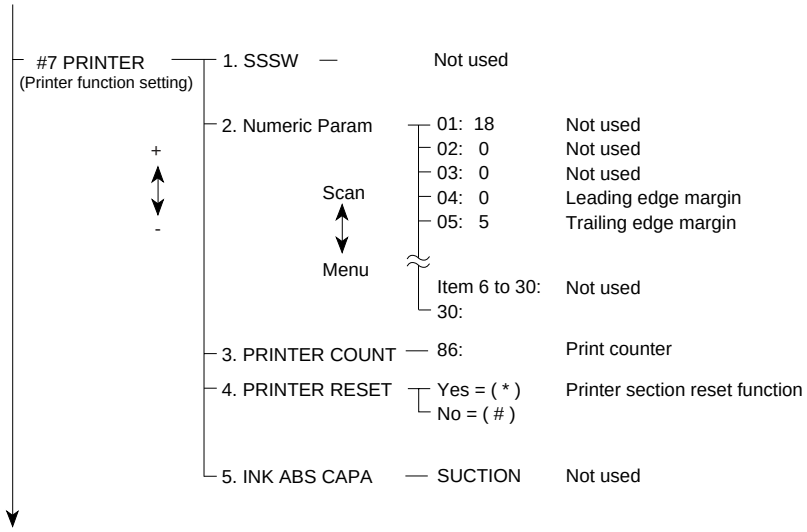
⚠

The switches marked "-" are not used. Do not change their settings.

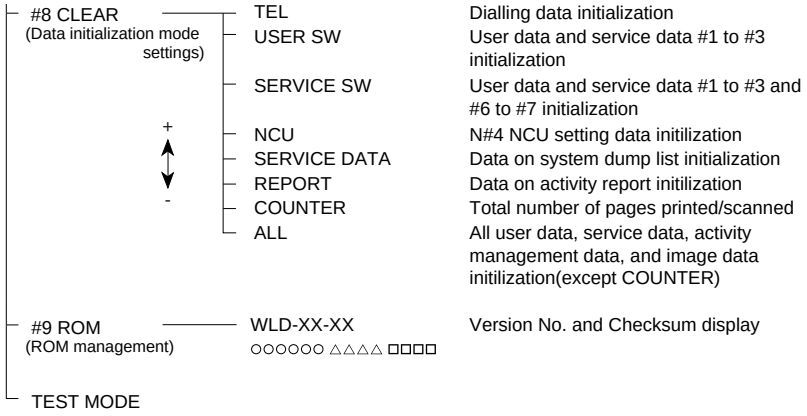
#2 MENU, #3 NUMERIC Pram., #4 NCU are not used. Do not change their settings.

#6 GENESIS (UHQ function settings)

Tampering with this setting may cause the scanned image quality to deteriorate. Do not change the settings.



F-4-6



F-4-7

Note:

If USER SW is selected from #8 CLEAR, the memory management of the user data will not be cleared.

If TEL or SERVICE SW is selected, the memory management of the user data will be cleared.

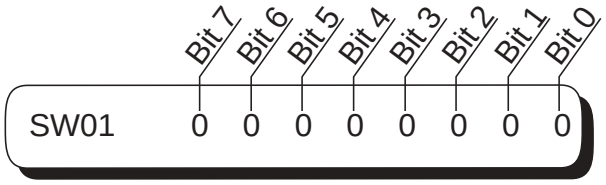
4.5 New SSSWs/Parameters Added to This Model

4.5.1 Service Data

0002-0681

SSSW (Service Soft Switch settings)

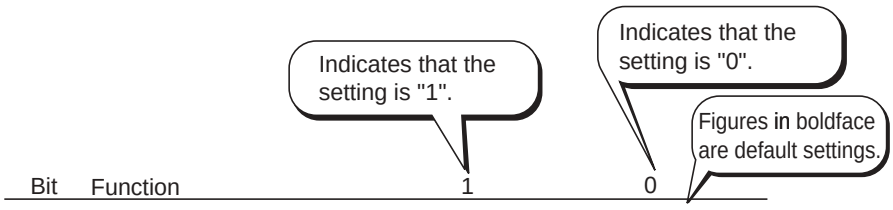
The items registered and set by each of these switches comprise 8-bit switches. The figure below shows which numbers are assigned to which bits. Each bits has a value of either 0 or 1.



F-4-8

Refer to the service data menu for the details of the service switches and the initial setup values of this machine. Because this machine does not have any new additional service data, for further details of service data, refer to the separate volume, **"G3/G4 Facsimile Service Data Service Handbook (revised ver.1)".**

Below are examples showing how to read bit switch tables.



Bit	Function	1	0
0	Service error code	Output	**Not Output**
1	Error dump list	Output	**Not Output**
2	Not used		
3	Copy function	No	**Yes**
4	##300 series service error code	Output	**Not Output**
5	Not used		
6	Not used		
7	User setting restriction	Setting possible	**Setting resrticted**

F-4-9

4.6 Service Report Output Functions

4.6.1 System Data List

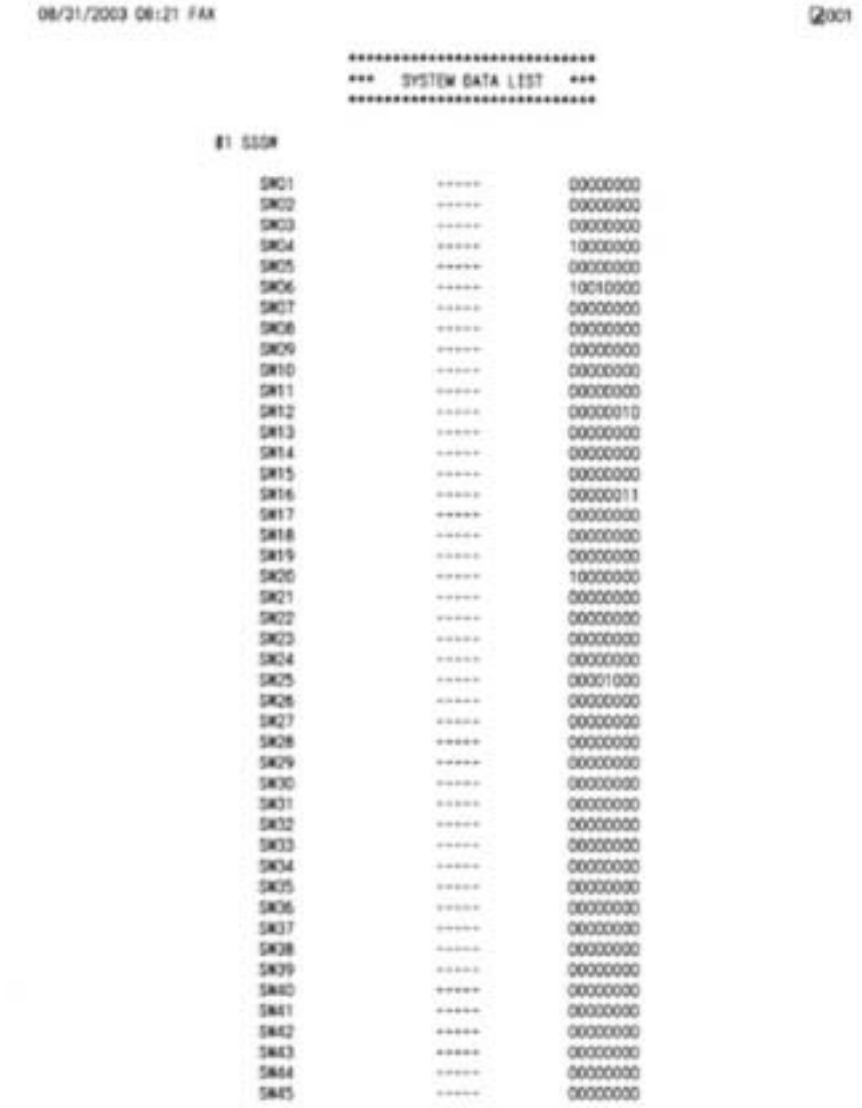
0002-4237

System data list

This list shows service data #1 to #5,#7,#9 setting statuses.

In the service mode, and select SERVICE REPORTS using the ◀▶ key. Press the Set key; then, select the type of list to generate using the ◀▶ key.

The following is a sample list.



08/31/2003 08:21 FAX 001

****
*** SYSTEM DATA LIST ***
****

01 SSSW

SW01	*****	00000000
SW02	*****	00000000
SW03	*****	00000000
SW04	*****	10000000
SW05	*****	00000000
SW06	*****	10010000
SW07	*****	00000000
SW08	*****	00000000
SW09	*****	00000000
SW10	*****	00000000
SW11	*****	00000000
SW12	*****	00000010
SW13	*****	00000000
SW14	*****	00000000
SW15	*****	00000000
SW16	*****	00000011
SW17	*****	00000000
SW18	*****	00000000
SW19	*****	00000000
SW20	*****	10000000
SW21	*****	00000000
SW22	*****	00000000
SW23	*****	00000000
SW24	*****	00000000
SW25	*****	00001000
SW26	*****	00000000
SW27	*****	00000000
SW28	*****	00000000
SW29	*****	00000000
SW30	*****	00000000
SW31	*****	00000000
SW32	*****	00000000
SW33	*****	00000000
SW34	*****	00000000
SW35	*****	00000000
SW36	*****	00000000
SW37	*****	00000000
SW38	*****	00000000
SW39	*****	00000000
SW40	*****	00000000
SW41	*****	00000000
SW42	*****	00000000
SW43	*****	00000000
SW44	*****	00000000
SW45	*****	00000000

F-4-10

08/31/2003 08:21 FAX 002

SW46	-----	00000000
SW47	-----	00000000
SW48	-----	00000000
SW49	-----	00000000
SW50	-----	00000000

#2 MENU

05:	-----	OFF
06:	-----	DIAL
07:	-----	10
08:	-----	3429
09:	-----	33.6
10:	-----	25Hz

#3 NUMERIC Param.

02:	-----	10
03:	-----	15
04:	-----	12
05:	-----	4
06:	-----	4
09:	-----	6
10:	-----	5500
11:	-----	3500
15:	-----	120
16:	-----	4
17:	-----	100
18:	-----	0
19:	-----	200
20:	-----	100
21:	-----	0
22:	-----	200
23:	-----	44
24:	-----	20
25:	-----	60
26:	-----	44
30:	-----	10

#4 NCU

1. TONE / PULSE

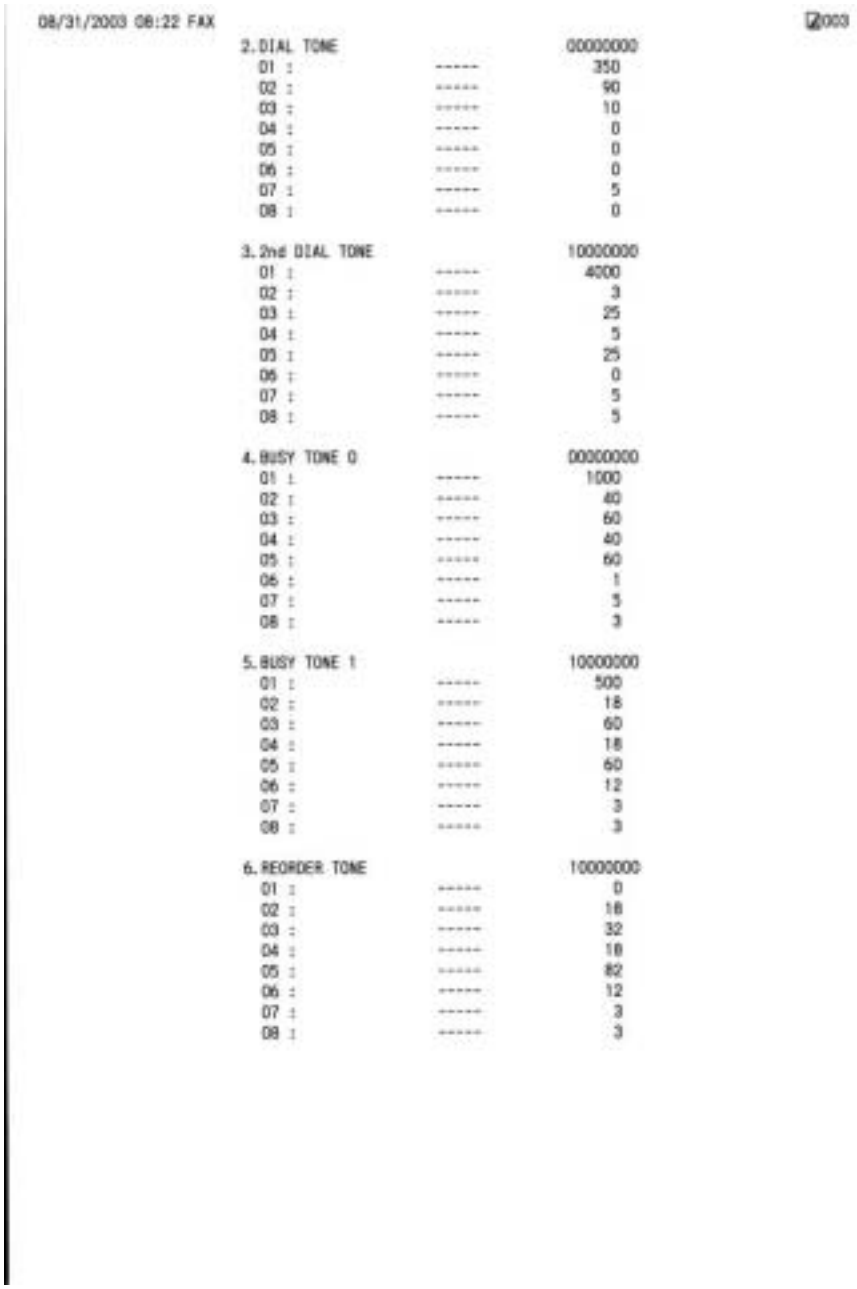
1. TONE

01 :	-----	90
02 :	-----	180

2. PULSE ----- DP(N)

01 :	-----	100
02 :	-----	200
03 :	-----	39
04 :	-----	780

F-4-11



08/31/2003 08:22 FAX 003

2.DIAL TONE		00000000
01 :	-----	350
02 :	-----	90
03 :	-----	10
04 :	-----	0
05 :	-----	0
06 :	-----	0
07 :	-----	5
08 :	-----	0
3.2nd DIAL TONE		10000000
01 :	-----	4000
02 :	-----	3
03 :	-----	25
04 :	-----	5
05 :	-----	25
06 :	-----	0
07 :	-----	5
08 :	-----	5
4.BUSY TONE 0		00000000
01 :	-----	1000
02 :	-----	40
03 :	-----	60
04 :	-----	40
05 :	-----	60
06 :	-----	1
07 :	-----	5
08 :	-----	3
5.BUSY TONE 1		10000000
01 :	-----	500
02 :	-----	18
03 :	-----	60
04 :	-----	18
05 :	-----	60
06 :	-----	12
07 :	-----	3
08 :	-----	3
6.REORDER TONE		10000000
01 :	-----	0
02 :	-----	18
03 :	-----	32
04 :	-----	18
05 :	-----	82
06 :	-----	12
07 :	-----	3
08 :	-----	3

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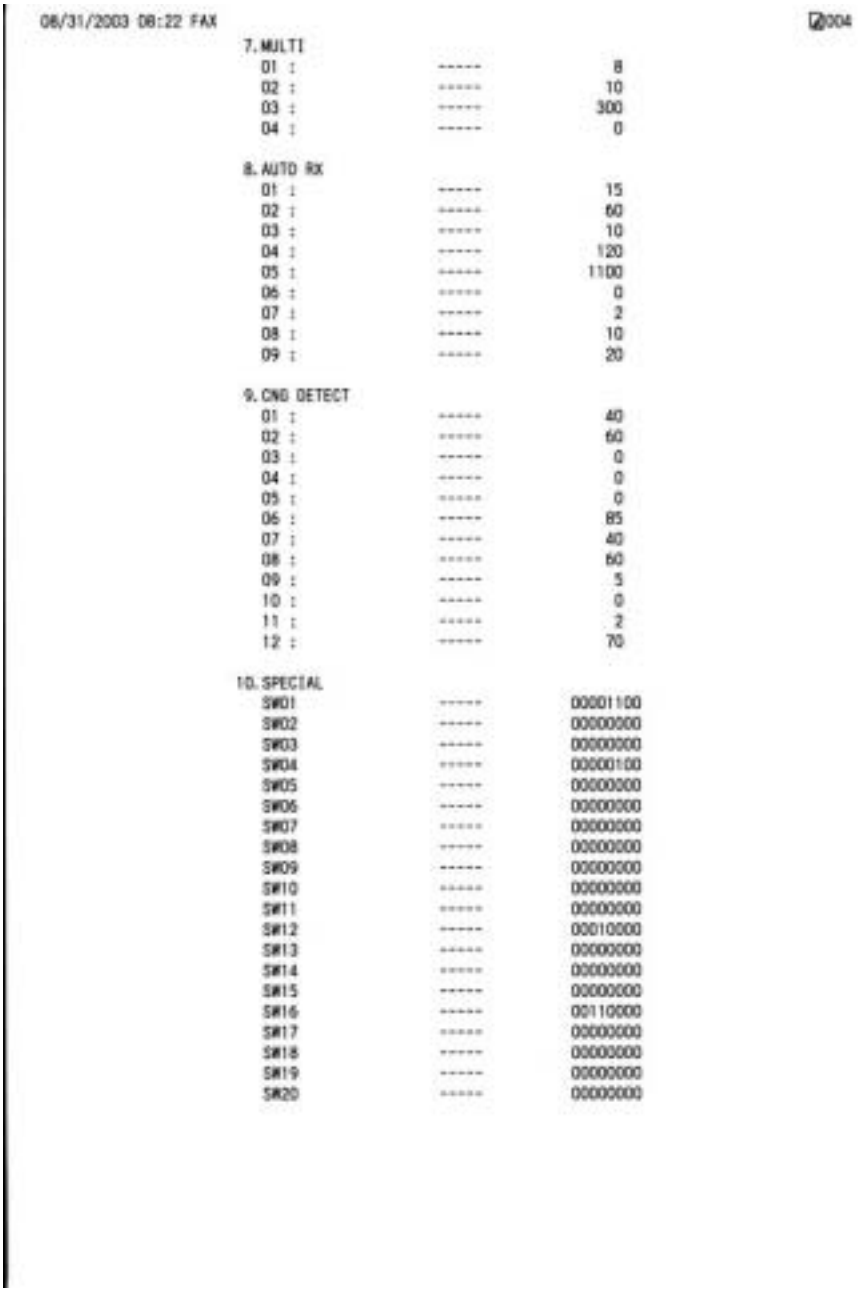

08/31/2003 08:22 FAX 004

7. MULTI

01 :	-----	8
02 :	-----	10
03 :	-----	300
04 :	-----	0

8. AUTO RX

01 :	-----	15
02 :	-----	60
03 :	-----	10
04 :	-----	120
05 :	-----	1100
06 :	-----	0
07 :	-----	2
08 :	-----	10
09 :	-----	20

9. CNG DETECT

01 :	-----	40
02 :	-----	60
03 :	-----	0
04 :	-----	0
05 :	-----	0
06 :	-----	85
07 :	-----	40
08 :	-----	60
09 :	-----	5
10 :	-----	0
11 :	-----	2
12 :	-----	70

10. SPECIAL

SW01	-----	00001100
SW02	-----	00000000
SW03	-----	00000000
SW04	-----	00000100
SW05	-----	00000000
SW06	-----	00000000
SW07	-----	00000000
SW08	-----	00000000
SW09	-----	00000000
SW10	-----	00000000
SW11	-----	00000000
SW12	-----	00010000
SW13	-----	00000000
SW14	-----	00000000
SW15	-----	00000000
SW16	-----	00110000
SW17	-----	00000000
SW18	-----	00000000
SW19	-----	00000000
SW20	-----	00000000

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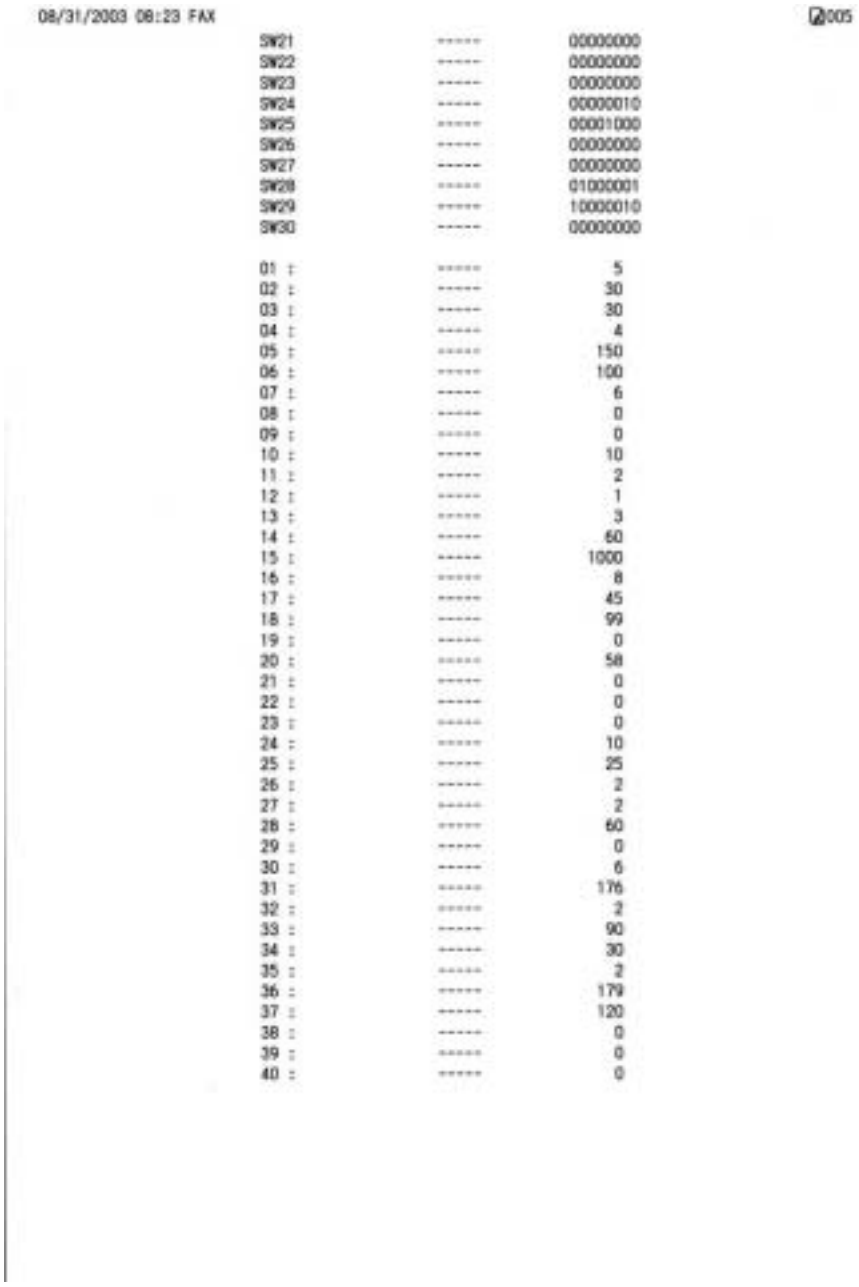

08/31/2003 08:23 FAX 005

SW21	-----	00000000
SW22	-----	00000000
SW23	-----	00000000
SW24	-----	00000010
SW25	-----	00001000
SW26	-----	00000000
SW27	-----	00000000
SW28	-----	01000001
SW29	-----	10000010
SW30	-----	00000000

01 :	-----	5
02 :	-----	30
03 :	-----	30
04 :	-----	4
05 :	-----	150
06 :	-----	100
07 :	-----	6
08 :	-----	0
09 :	-----	0
10 :	-----	10
11 :	-----	2
12 :	-----	1
13 :	-----	3
14 :	-----	60
15 :	-----	1000
16 :	-----	8
17 :	-----	45
18 :	-----	99
19 :	-----	0
20 :	-----	58
21 :	-----	0
22 :	-----	0
23 :	-----	0
24 :	-----	10
25 :	-----	25
26 :	-----	2
27 :	-----	2
28 :	-----	60
29 :	-----	0
30 :	-----	6
31 :	-----	176
32 :	-----	2
33 :	-----	90
34 :	-----	30
35 :	-----	2
36 :	-----	179
37 :	-----	120
38 :	-----	0
39 :	-----	0
40 :	-----	0

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08/31/2003 08:23 FAX 006

41 :	-----	0
42 :	-----	13
43 :	-----	0
44 :	-----	0
45 :	-----	0
46 :	-----	0
47 :	-----	10
48 :	-----	50
49 :	-----	0
50 :	-----	0
11. RKEY		
01 :	-----	0
02 :	-----	0
03 :	-----	0
12. PBX DIAL TONE		00000000
01 :	-----	350
02 :	-----	90
03 :	-----	10
04 :	-----	0
05 :	-----	0
06 :	-----	0
07 :	-----	5
08 :	-----	0
13. PBX BUSY TONE		00000000
01 :	-----	1000
02 :	-----	40
03 :	-----	60
04 :	-----	40
05 :	-----	60
06 :	-----	1
07 :	-----	5
08 :	-----	3
#5 TYPE		
TYPE	-----	U.S.A.
#7 PRINTER		
SW01	-----	00000000
SW02	-----	00000011
SW03	-----	00000000
SW04	-----	00000000
SW05	-----	00000000
SW06	-----	00000100
SW07	-----	00000000
SW08	-----	00000000
SW09	-----	00000000
SW10	-----	00000000

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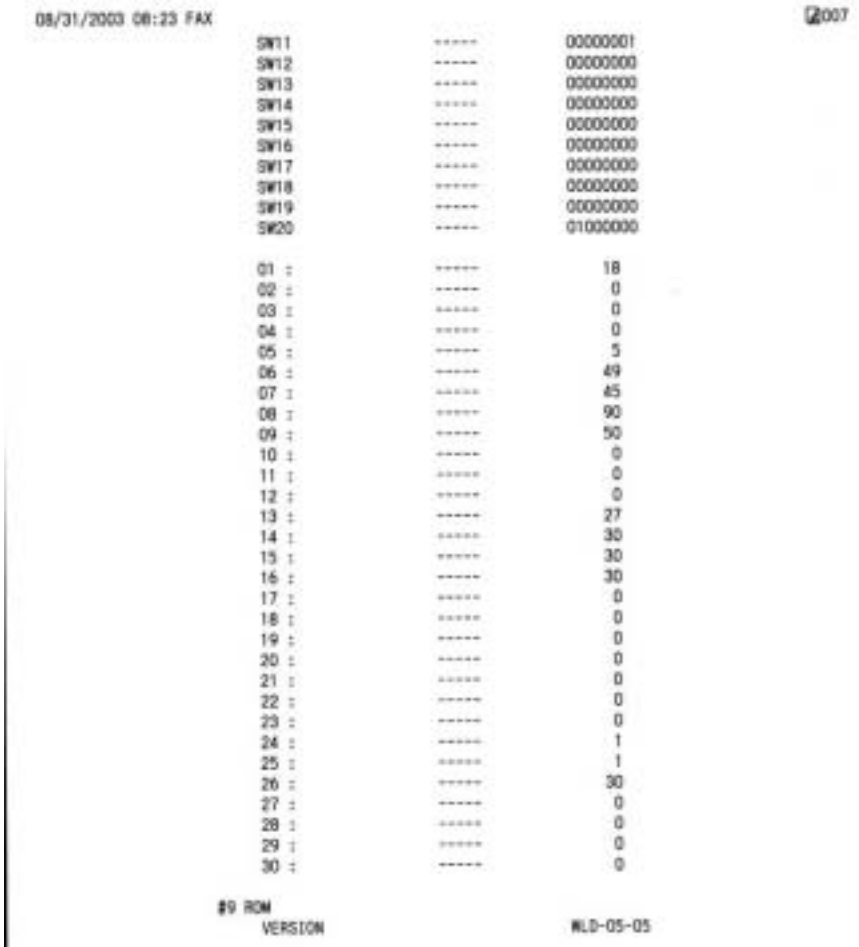
08/31/2003 08:23 FAX

007

SW11	-----	00000001
SW12	-----	00000000
SW13	-----	00000000
SW14	-----	00000000
SW15	-----	00000000
SW16	-----	00000000
SW17	-----	00000000
SW18	-----	00000000
SW19	-----	00000000
SW20	-----	01000000

01 :	-----	18
02 :	-----	0
03 :	-----	0
04 :	-----	0
05 :	-----	5
06 :	-----	49
07 :	-----	45
08 :	-----	90
09 :	-----	50
10 :	-----	0
11 :	-----	0
12 :	-----	0
13 :	-----	27
14 :	-----	35
15 :	-----	30
16 :	-----	30
17 :	-----	0
18 :	-----	0
19 :	-----	0
20 :	-----	0
21 :	-----	0
22 :	-----	0
23 :	-----	0
24 :	-----	1
25 :	-----	1
26 :	-----	30
27 :	-----	0
28 :	-----	0
29 :	-----	0
30 :	-----	0

#9 ROM
VERSION WLD-05-05

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F-4-17

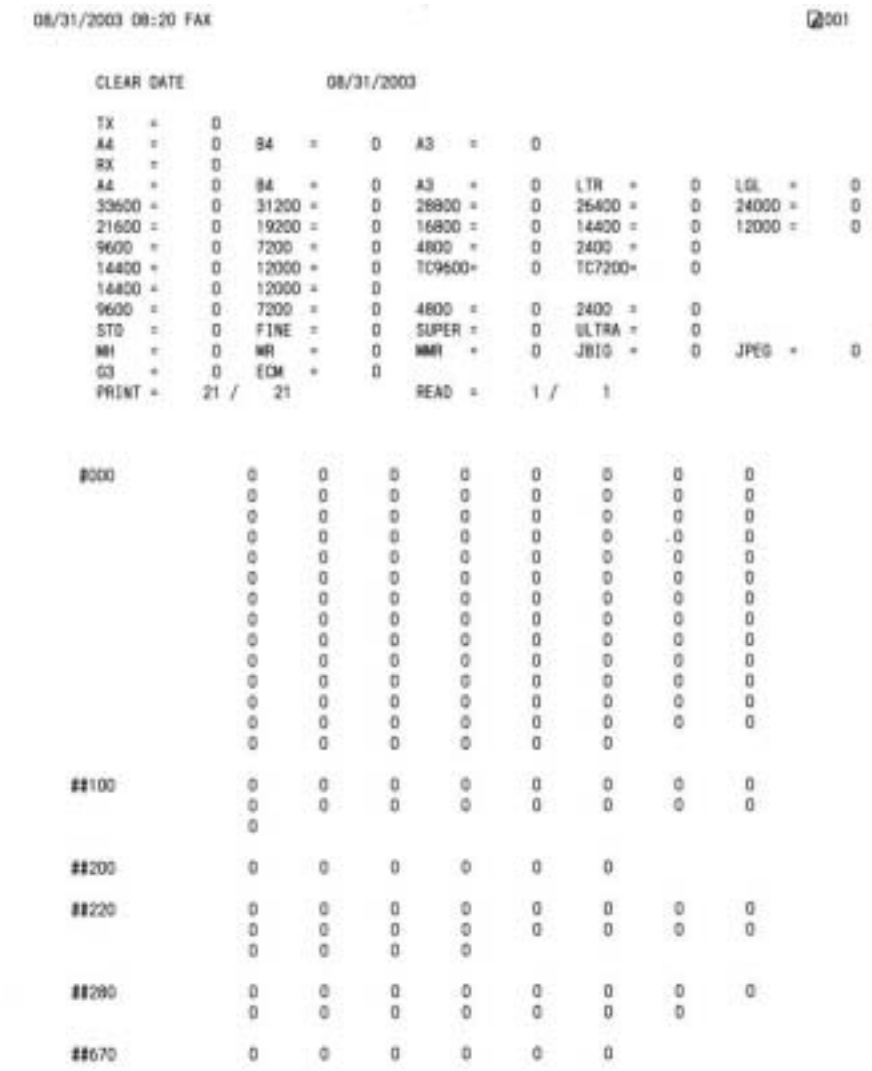
4.6.2 System Dump List

0002-4238

System dump list

In the service mode, and select SERVICE REPORTS using the ◀▶ key. Press the Set key; then, select the type of list to generate using the ◀▶ key.

The following is a sample list.



08/31/2003 08:20 FAX 001

CLEAR DATE 08/31/2003

TX =	0										
A4 =	0	B4 =	0	A3 =	0						
RX =	0										
A4 =	0	B4 =	0	A3 =	0	LTR =	0	LGL =	0		
33600 =	0	31200 =	0	28800 =	0	26400 =	0	24000 =	0		
21600 =	0	19200 =	0	16800 =	0	14400 =	0	12000 =	0		
9600 =	0	7200 =	0	4800 =	0	2400 =	0				
14400 =	0	12000 =	0	TC9600=	0	TC7200=	0				
14400 =	0	12000 =	0								
9600 =	0	7200 =	0	4800 =	0	2400 =	0				
STD =	0	FINE =	0	SUPER =	0	ULTRA =	0				
MH =	0	MR =	0	MMR =	0	JBIG =	0	JPEG =	0		
G3 =	0	ECM =	0								
PRINT =	21 / 21			READ =	1 / 1						

#000	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0		
##100	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0							
##200	0	0	0	0	0	0		
##220	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0				
##280	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	
##670	0	0	0	0	0	0		

F-4-18

CLEAR DATE: Date on which data was initialized with service data #8 CLEAR, ALL
RX/TX: Not used
A4/B4/A3/LTR/LGL: Not used
14400 bps to 2400 bps: Not used
STD/FINE/SUPER/ULTRA: Not used
MH/MR/MMR/JBIG/JPEG: Not used
G3/ECM: Not used
PRINT HEAD: Total number of pages printed/scanned

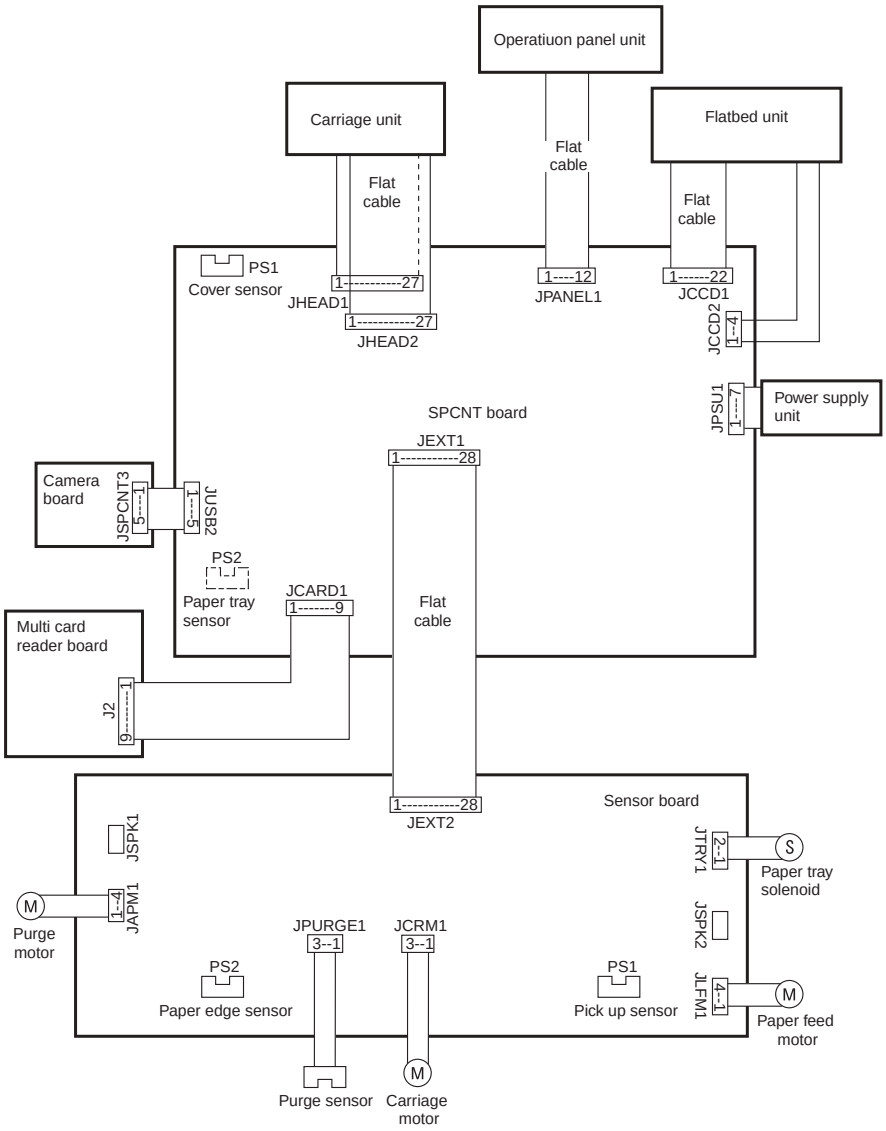
[Display example]
PRINT = 30*/100** READ = 30*/100**
* Indicates the value input with Service Data #8 CLEAR, COUNTER.
** Indicates the value counted since shipment from the factory.

#000 to #750: Not used

4.7 Wiring Diagram

4.7.1 Wiring Diagram

0002-5458



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Chapter 5 Troubleshooting

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5.1 Troubleshooting Index

5.1.1 Troubleshooting Index

0002-1612

For troubleshooting, use the troubleshooting index below to investigate the cause of the problem and refer to the specified page for countermeasures.

Problem

Errors shown on the display (Evaluation criteria: Look at the unit in question.)

The error message can be checked.

The error code can be checked**.**

General errors

The unit does not power on.

The display looks abnormal.

The keys do not work.

Printing problem

The paper is not fed properly.

The paper feed motor does not run.

The paper is not picked up from the auto sheet feeder.

The printing operation is abnormal.

Nothing is printed.

The carriage motor does not run.

Carriage error

The carriage hits against left/right stop plate, causing a noize.

Printing quality error

The printer does not print at all.

Printing stop midway.

Certain colors do not print.

Blotches appear.

Blank ink appear.

Scanning problem (Evaluation criteria: Test printing is good, but the copied image is no good.)

The scanning image is abnormal.

Nothing prints.

The image has vertical stripes.

The half-tone image contains black dots.

The color or brightness of the scanned image is not normal.

Memory card problem

Memory card error

5.2 Errors Shown on the Display

5.2.1 User Error Message

0002-1636

Look for the applicable error message and execute the appropriate countermeasures.

"BLACK INK LOW"

Cause: The ink level in the black ink tank is low.
Solution: Replace the black ink tank. If the machine stops printing when copying or photo printing, you can continue printing by pressing the [Set] key. However, note that ink may run out. If print quality deteriorates or the printout is blank, replace the ink tank.

"CANNOT USE THIS CARD"

Cause: You have inserted a memory card incompatible with the machine or a damaged memory card into the card slot.
Solution: Remove the memory card from the slot, and then turn the power OFF and ON again.

"CARD READER BUSY"

Cause: You tried to start photo printing when the card slot was in use by the computer.
Solution: Wait until the card slot is no longer being used by the computer.

"CARD READER ERROR"

Cause: Thre is a problem with the card slot.
Solution:(1) Switch to another mode or turn the machine OFF and ON.
(2) Check the connection between the multi-card board and the SPCNT board.
(3) Replace the multi-card board.
(4) Replace the SPCNT board.

"CARD READER OFFLINE"

Cause: The card slot may not be receiving any power.
Solution: (1) Remove the memory card from the card slot, turn the power OFF and ON again, then reinsert the memory card.
(2) Check the connection between the multi-card board and the SPCNT board.
(3) Replace the multi-card board.
(4) Replace the SPCNT board.

"CARTRIDGE JAMMED"

Printing position correction failed.

Cause: Carriage movement prevented by one of the followings:
Damaged shaft
Parts deformed. (Carriage or guide frame)
Insufficient grease
Solution: Replace the shaft.
Replace the deformed parts.
Apply more grease.

Cause: Bi-directional print displacement correction failed because the carriage motor is out of step, or some similar reason.
Solution: Replace the carriage motor.

Home position error

Cause: Tried to stop the carriage unit that has been moving or to move the carriage unit at a pouse by force.
Solution: Do not touch the carriage unit other than cartrige replacement position.

Cause: Foreign body in carriage section.
Solution: Open flatbed ass'y and remove the foreign body.

Cause: Loose carriage belt.
Solution: Replace the carriage belt.

Cause: Carriage motor does not work.
Solution:(1) Switch power OFF/ON.
(2) Replace the carriage motor.

Cause: The position of the carriage cannot be detected (due to smears on the carriage encoder film or the SPCNT board failure).
Solution: (1) Switch power OFF/ON.
(2) Wipe the cariage encoder film with a cloth soaked with alcohol.
(3) Replace the carriage unit.
(4) Replace the carriage encoder film.
(5) Replace the SPCNT board.

Note:
This error message means the same as service error codes ##338 and ##340. When this error occurs in this model.

it is not treated as a service error, but as a user error, and the error message is displayed.

"CHECK PAPER SIZE"

Cause: The size of the paper loaded in the paper cassette is different from the paper size set by user data.
Solution: Load an appropriate papaer in the paper cassette. Or change the paper size settings, and then press the [Set] key.

"CHECK PRINTER" (##334 - ##336, ##343, ##345, ##346,##352)

Cause: The printer's internal unit has malfunctioned.
Solution: (1) Remove the jammed paper. (Check the paper edge sensor is OFF.)
(2) Press the [Set] key.
(3) Reinstall the printhead.
(4) Turn the power off and on.
(5) Check the service error code and refer to an appropriate solution.

"CLEAR PAPER JAM"

Cause: There is a paper jam.
Solution: Clear the paper jam and reload paper in the multi-purpose tray. Press the [Set] key or the [Start] key.

"COLOR INK LOW"

Cause: The ink level in the color ink tank is low.
Solution: Make sure you have a new color ink tank ready to replace the used one when ink runs out. If the machine stops printing when copying or photo printing, you can continue printing by pressing the [Set] key. However, note that ink may run out. If print quality deteriorates or the printout is blank, replace the ink tank.

"COVER OPEN"

Cause: You opened the flatbed ass'y during an operation.
Solution: Close the flatbed ass'y.

Cause: Faulty cover sensor
Solution: Replace the cover sensor (a unit of replacement is the SPCNT board: HK1-0754).

"FILE NOT READABLE"

Cause: There is image data that has been edited on a computer or a digital camera.
Solution: Check which photographs were not printed and try reprinting them from the computer.

"INK TANK CHANGED?"

Cause: You returned the scan unit to its original position.
Solution: If you replaced an ink tank, press [YES]. If you did not, press [NO].

"LOAD PAPER"

Cause: The multi-purpose tray is empty.
Solution: Load paper in the multi-purpose tray. Make sure the stack is below the paper limit mark. Press the [Set] key, the [Color Start] key or [B&W Start] key.

"MEMORY FULL"

Cause: The macine's memory is full because you tried to copy too many pages at once or a very detailed document.
Solution: Divide the document and copy each part separately.

Cause: Tried to print a large image data in the photo print mode.
Solution: Print the image data from the computer.

"PROBLEM READING CARD"
TURN OFF AND ON

Cause: There is a problme with the card slot.
Solution: (1) Switch to another mode or turn the machine OFF and ON.
(2) Check the connection between the multi-card board and the SPCNT board.
(3) Replace the multi-card board.
(4) Replace the SPCNT board.

"PROBLEM READING CARD"
REINSERT MEMORY CARD

Cause: The data on the memory card may be inaccessible.
Solution: Check the data on the memory card in you digital camera.

"PUT IN CARTRIDGE"

Cause: The printhead is not set.
Solution: Set the printhead.

"UNABLE TO PRINT ALL"

Cause: In all images or range frame photo printing, not allthe photographs were printed.

Solution: Check which photographs were not printed and try reprinting them.

"WAIT COOLING"

Cause: During printing, the printhead may have become too hot.
Solution: Allow the machine to cool down. The machine will resume printing when it has cooled down.

"WASTED INK NEAR FULL"

Cause: The waste ink tank (which holds the ink used for print head cleaning) is nearly full.
Solution: If "CHECK PRINTER" message is displayed, refer to Cause and Solution of the error code ##343 and replace the waste ink tank.

"WRONG CARTRIDGE"

Cause: The printhead (BJ cartridge) is not installed correctly.
Solution: Install the prithead (BJ cartridge).

Cause: The printhead (BJ cartridge) is defective.
Solution: Replace the printhead (BJ cartridge).

5.3 Error Code

5.3.1 Error Code

0002-0809

Error Codes

Error Code List includes all the error codes that the product can display. As for the causes and countermeasures, only the error codes that are newly incorporated in the unit remedies unique to the product are included in **New Error Codes and Recovery Methods**. For the causes and countermeasures of other error codes, refer to the separate **G3/G4 Facsimile Error Code Lst (Rev.2).**

Service error code output

When service data #1 SSSW SW01 it 0 is set to "1", then service error codes are printed on the activity management reports, reception result reports and error transmission reports, when communication ends in an error. Also, the following is displayed, when an error occurs.

5.3.2 Error Code List

0002-0964

The error codes that have newly been added starting with the product are identified by the notation "new" those error codes for which remedies unique to the product are offered are identified by the notation "UNQ (UNIQUE)."

T-5-1

Error Code List

	No.	Definition
	##33 4	Printer control EEPROM check error
	##33 5	Data transmission error between the system control section and printer control section
	##33 6	BJ head abnormal temperature error
UNQ	##34 2	Cleaning absorption waste ink capacity full
	##34 5	BJ cartridge head cleaning error
	##34 6	Inside temperature error

New	##35	
	2	Printer control EEPROM head information error

5.3.3 New Error Codes and Recovery Methods

0002-1662

Those error codes that have been added starting with the products and those error codes for which remedies unique to the product are offered are shown together with causes and remedies, where applicable.

##342 Cleaning absorption waste ink capacity full

Solution: Unlike errors that trigger the "CHECK PRINTER" message, this error is programmed so that it cannot be cleared using the Set key. Replace the waste ink absorber as follows in the error occurs:

(1) Select TEST MODE in Service mode.
(2) Select [8] PRINTER TEST using ◀ key or ▶ key.
(3) Select [8-3] EEPROM CLEAR using ◀ key or ▶ key, and then select [0] INK COUNT.
(4) Check to make sure that no image exist in memory; then turn off the power, remove the appropriate parts, and replace the waste ink absorber.

##352 Printer control EEPROM head information error

Cause: The EEPROM for printer control is faulty.

Solution:
(1) Turn off and then on the power.
(2) Turn off the power, and replace the printhead.
(3) Replace the SPCNT board.

NOTE:
In the presence of ##352, the carriage unit will not move to printhead replacement position even when the inner cover is opened. Moreover the carriage will not be locked in position even when the power is turned off. When replacing the printhead, be sure to turn off the power, and draw out the carriage before replacement.

5.4 Errors not Shown on the Display

5.4.1 General Errors

0002-1688

The unit does not power on.

(1) Check the power cord connection.

(2) Check the connection between the PCNT board (JPSU1) and power supply unit.

(3) Check the power supply unit's fuse (F1)

(4) Replace the power supply unit.

The display looks abnormal.

Nothing is displayed.

(1) Check the connection between the Operation panel unit and SPCNT board (JPANEL1).

(2) Replace the Operation panel unit.

(3) Replace the SPCNT board.

Part of the LCD panel does not display anything.

(1) Check the connection between the Operation panel unit and SPCNT board (JPANEL1).

(2) Replace the Operation panel unit.

(3) Replace the SPCNT board.

The keys do not work

(1) If the test mode can be used, check for faulty keys.

(2) Check the connection between the Operation panel unit and SPCNT board (JPANEL1).

(3) Replace the Operation panel unit.

(4) Replace the SPCNT board.

5.4.2 Printing problem

0002-1703

The paper is not fed properly.

The paper feed motor does not run.

(1) Check the connection from the paper feed motor to the sensor board (JLFM1).

(2) Check the connection from the sensor board (JEXT2) to the SPCNT board (JEXT1).

(3) Replace the paper feed motor.

(4) Replace the sensor board.

(5) Replace the SPCNT board.

The paper is not picked up from the auto sheet feeder.

(1) Check the ASF motor for foreign objects or damages.

(2) Replace the ASF unit.

(3) Replace the SENSOR board (Faulty PRS or PES).

The printing operation is abnormal.

Nothing prints.

(1) Remove the BJ cartridge and re-install it.
(2) Execute cleaning five times, and try printing again.
(3) Replace the BJ cartridge.
(4) Replace the ink tank.
(5) Replace the purge unit.
(6) Check the connection between carriage ribbon cable and SPCNT board (JHEAD1, JHEAD0).
(6) Replace the carriage unit.
(7) Replace the SPCNT board.

The carriage motor does not run.

(1) Check the connection from the carriage motor to the sensor board (JCRM1).
(2) Check the connection from the sensor board (JEXT2) to the SPCNT board (JEXT1).
(3) Replace the carriage motor.
(4) Replace the sensor board.
(5) Replace the SPCNT board.

Carriage error

The carriage comes into contact with the push-on plates at the left and right side, resulting in noise.

(1) Check if grease adheres to the carriage encoder film.
(2) Using lint-free paper impregnated with alcohol, wipe the carriage encoder film with care so as not to scratch the film.
(3) If a lot of grease adheres to the carriage, replace the carriage board because grease might be spread to the sensor on the carriage board. (In this case, you must replace the carriage unit (HK1-0717) which contains the carriage board.)
(4) Replace the carriage encoder film.

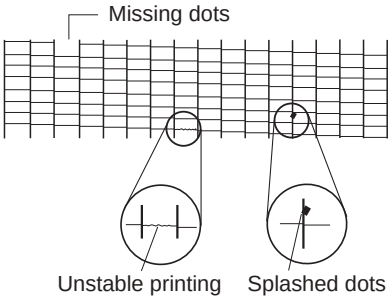
Printing quality error

The printer does not at all.

Printing stops midway.

Certain colors are not printed.

(1) Check that the orange cap or tap is not on the printhead.
(2) Remove the printhead and re-install it.
(3) Perform printhead cleaning, and visually check the test print for non-discharge of ink from nozzle.
(4) Perform head-refreshing, and visually check the test print for non-discharge of ink from nozzle.
(5) Replace the appropriate ink tank.
(6) Replace the printhead
(7) Replace the purge unit.



F-5-1

Blotched appear

Blank ink appear

(1) Remove and reinstall the printhead.

(2) Perform printhead cleaning, and visually check the test print for non-discharge of ink from nozzle.

(3) Perform head-refreshing, and visually check the test print for non-discharge of ink from nozzle.

(4) Replace the appropriate ink tank.

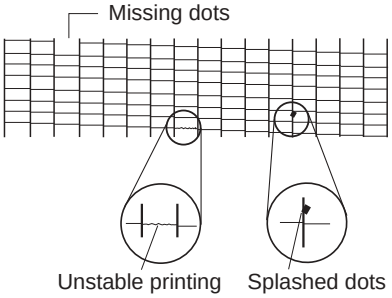
(5) Replace the printhead.

(6) Check the connection of the carriage ribbon cable and the SPCNT board (JHEAD1, JHEAD2).

(7) Replace the carriage unit.

(8) Replace the SPCNT board.

(9) Replace the purge unit.



F-5-2

5.4.3 Scanning Problems

0002-1775

Scanning problems

CCD Motor does not work.

(1) Check the connection between the CCD motor and SPCNT board (JCCD2).

(2) Replace the scanner unit.

(3) Replace the SPCNT board.

The scanning image is abnormal. (Evaluation criteria: Check the copy image's faults).

Nothing is printed.

(1) Check the connection between the CCD and SPCNT board (JCCD1).
(2) Replace the scanner unit.
(3) Replace the SPCNT board.

The image has vertical stripes.
(1) Clean the Document glass.
(2) Check the connection between the CCD and SPCNT board (JCCD1).
(3) Replace the scanner unit.
(4) Replace the SPCNT board.

The halftone image contains black dots.
(1) Clean the Document glass.
(2) Check the connection between the CCD and SPCNT board (JCCD1).
(3) Replace the scanner unit.
(4) Replace the SPCNT board.

The color or brightness of the image is not normal.
(1) Clean the Document glass.
(2) Check the connection between the CCD and SPCNT board (JCCD1).
(3) Replace the scanner unit.
(4) Replace the SPCNT board.

5.4.4 Memory Card Problem

0002-1794

Memory card error (MP370)

The card is not recognized.
(1) Detach the memory card, and fit it back once again.
(2) Check to see if the memory card contains image data using a digital camera or computer.
(3) Check the connection between the multi card reader board and the SPCNT board (JCARD1).
(4) Replace the multi card reader unit.
(5) Replace the SPCNT board.

5.5 Test Mode Function Problems

5.5.1 Faulty Operation Panel Test

0002-5806

The LED panel does not display correctly.

(1) Check the connection between the OPECNT board (J1) and the SPCNT board (JPANEL1).

(2) Replace the operation panel unit.

(3) Replace the SPCNT board.

The LED lamp fails to go ON.

(1) Check the connection between the OPCNT board (J1) and the SPCNT board (JPANEL1).

(2) Replace the operation panel unit.

(3) Replace the SPCNT board.

The key on the operation panel fails to work properly.

(1) Check the connection between the OPCNT board (J1) and the SPCNT board (JPANEL1).

(2) Replace the operation panel unit.

(3) Replace the SPCNT board.

5.5.2 Faulty DRAM Test

0002-5811

The intention "READ & COMPARE NG" appears.

(1) Perform the DRAM test again. In case "Read & COMPARE NG" still appears, replace the SPCNT board.

5.5.3 Faulty Sensor Test

0002-5812

Paper edge sensor fails to operate properly.

(1) Check whether the actuator of paper edge sensor is in correct position.

(2) Check the connection between the SCPNT board (JEXT1) and the SENSOR board (JEXT2).

(3) Replace the SENSOR board.

(4) Replace the SPCNT board.

Cover sensor fails to operate properly.

(1) Check whether the actuator of cover sensor is in correct position.

(2) Replace the SPCNT board.

5.6 Test Functions

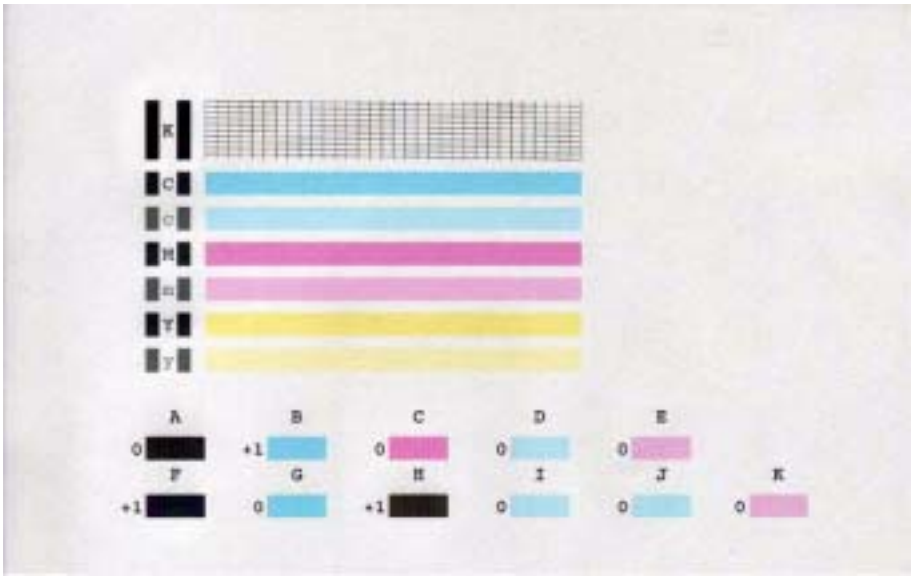
5.6.1 User Test Print Functions

0002-1810

User enabled Test print functions are as follow.

Nozzle check pattern

If you find a nozzle pattern indistinct or partially missing when you conduct this test print, do the head cleaning. If the symptom is not solved even after the cleaning is done three times, do the head refreshing. If the head refreshing does not solve the symptom, replace the BJ cartridge or the ink cartridge. The method of printing a nozzle check pattern is to press the [User Mode] key, select [Maintenance] by pressing ◀▶ key. Press the [Set] key. Select [Nozzle Check] by pressing ◀▶ key, and then press the [Set] key.



F-5-3

5.6.2 Test Mode Overview

0002-1925

Test mode can be executed by following the menu items from the display.

a) DRAM test

Writes data to DRAM image storage areas and read that data to check operations.

b) PRINT test

Prints test patterns within the print area.

c) FACULTY test

Test the operation of operation panel and sensor functions.

d) PRINTER test

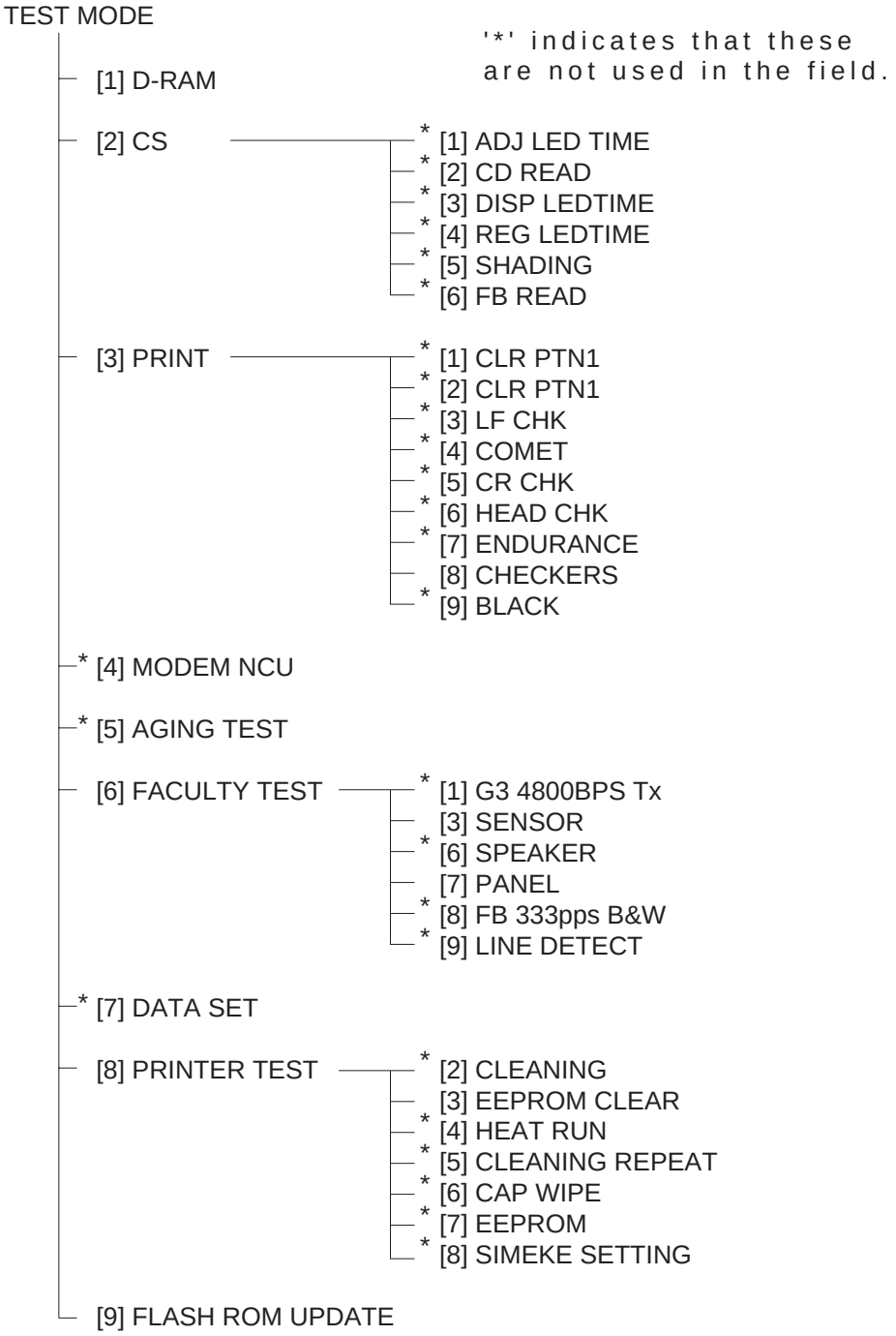
Ink absorber capacity is reset.

e) FLASH ROM UPDATE
Perform version upgrade of ROM.

5.6.3 Test Mode Flowchart

0002-2173

This machine is equipped with the test mode to check operations of variouse functions listed below. Please refer to Service Data Registration/Setting for instructions to select the test mode. Press the [Stop/Reset] key and then the [ON/OFF] key to end the test mode.



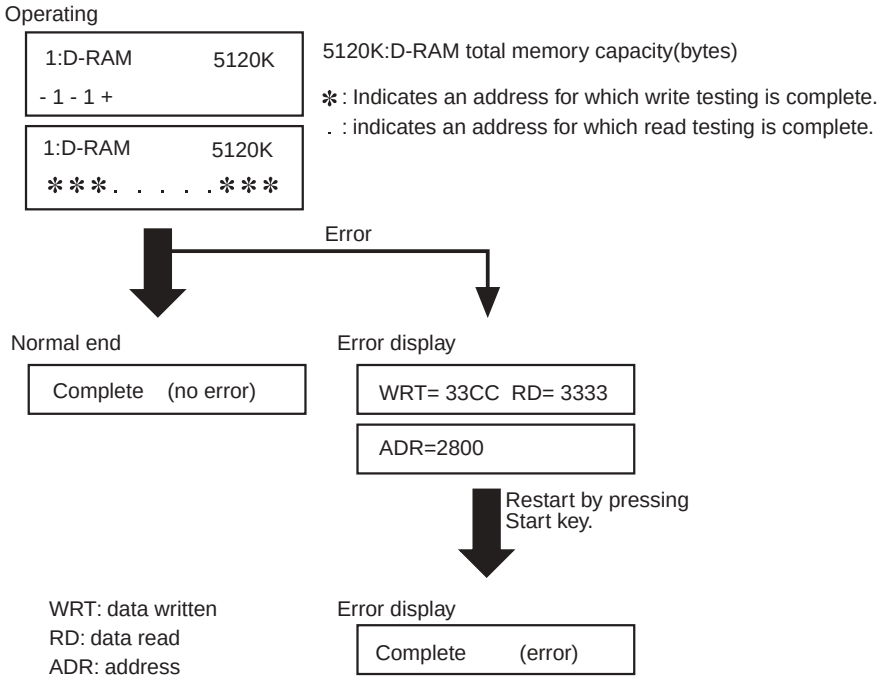
F-5-4

5.6.4 D-RAM tests

0002-2176

Select the D-RAM tests from the test mode menu by pressing the ◀ and ▶ keys.

D-RAM test 1 checks if data can be stored and read out properly in the any region of D-RAM. D-RAM test 2 checks if data can be read out at high speeds. Replace the SPCNT board if an error occurs.



F-5-5

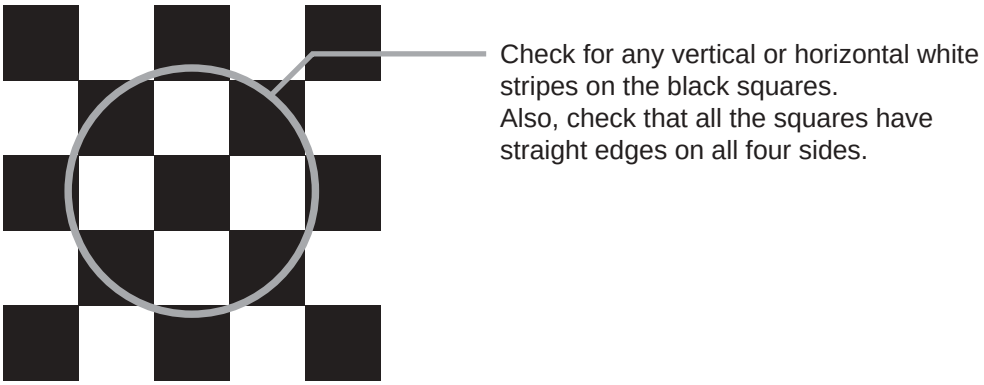
5.6.5 PRINT test

0002-9363

Select PRINT from the test mode menu by pressing the ◀ and ▶ keys.

The test prints variouse patterns, and please use the 3-8 CHECKERS pattern (press the ◀ and ▶ key from the print test menu) for service purpose. Do not use other patterns because they are for development/production purposes. Press the Stop/Reset key to end the test.

Check the pattern for the followings:


Check for any vertical or horizontal white stripes on the black squares.
Also, check that all the squares have straight edges on all four sides.

F-5-6

NOTE:

If the print test is normal, make a copy of a document. If the copy is faulty, the reading section is faulty.

⚠

Please do not select the following menu:
3-1: CLR PTN1, 3-2: CLR PTN2
If a mistake is made and these menus are selected, the value of #7 PRINTER #5. INK ABS CAPA will be reset to 0%.
Replace the waste ink absorber and set to 0% in TEST mode.

5.6.6 FACULTY tests

0002-2180

Select the faculty tests from the test mode menu by pressing the ◀ and ▶ keys. These tests check for the following faculties of the machine.

T-5-2

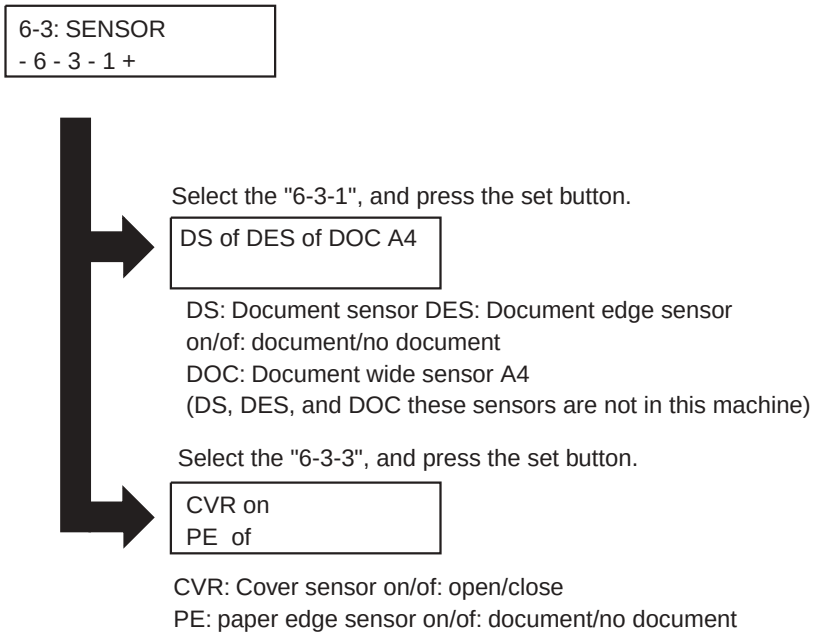
Test Type	Overview
Sensor Tests	Check if the key switches on the control panel work properly.
Operation Panel Test	Check if the key switches on the operation panel work properly.

a) Sensor Test

Select the sensor test from the faculty test menu by pressing the ◀ and ▶ keys. In this test, you can check the status of each sensor of this fax in item 1 on the display. You can also check if sensors that use actuators and microswitch are operating correctly by moving the actuator or microswitch.

NOTE:
The sensor tests cannot be used to test all of the sensors. The following sensors cannot be tested with the sensor tests:
Pickup sensor

If any of above sensors are faulty, an error message or service error code will appear to indicate the faulty sensor.


6-3: SENSOR
- 6 - 3 - 1 +
Select the "6-3-1", and press the set button.
DS of DES of DOC A4
DS: Document sensor DES: Document edge sensor
on/of: document/no document
DOC: Document wide sensor A4
(DS, DES, and DOC these sensors are not in this machine)
Select the "6-3-3", and press the set button.
CVR on
PE of
CVR: Cover sensor on/of: open/close
PE: paper edge sensor on/of: document/no document

F-5-7

b) Operation panel tests

Press the ◀ and ▶ key form the faculty to select 6-7:operation panel tests from the faculty test menu. In this test, check that the display, LED lamps, and keys on the control pane are operating correctly.

b-1) Display test

If you press Start key in the menu of the operation panel, 20 letters of "H" are displayed in two lines. If you press Start key one more time, all the LCD dots are displayed. If you press Stat key again, "_"is displayed. Check if there are no LCD dots that are not displayed by performing this operation.

b-2) LED lamp test

Press the Start key to select the LED lamp test after the display test is complete.

When the Start key is pressed, all the lamps on the control panel light. Check for any LED that does not light during the test.

b-3) Operation key test

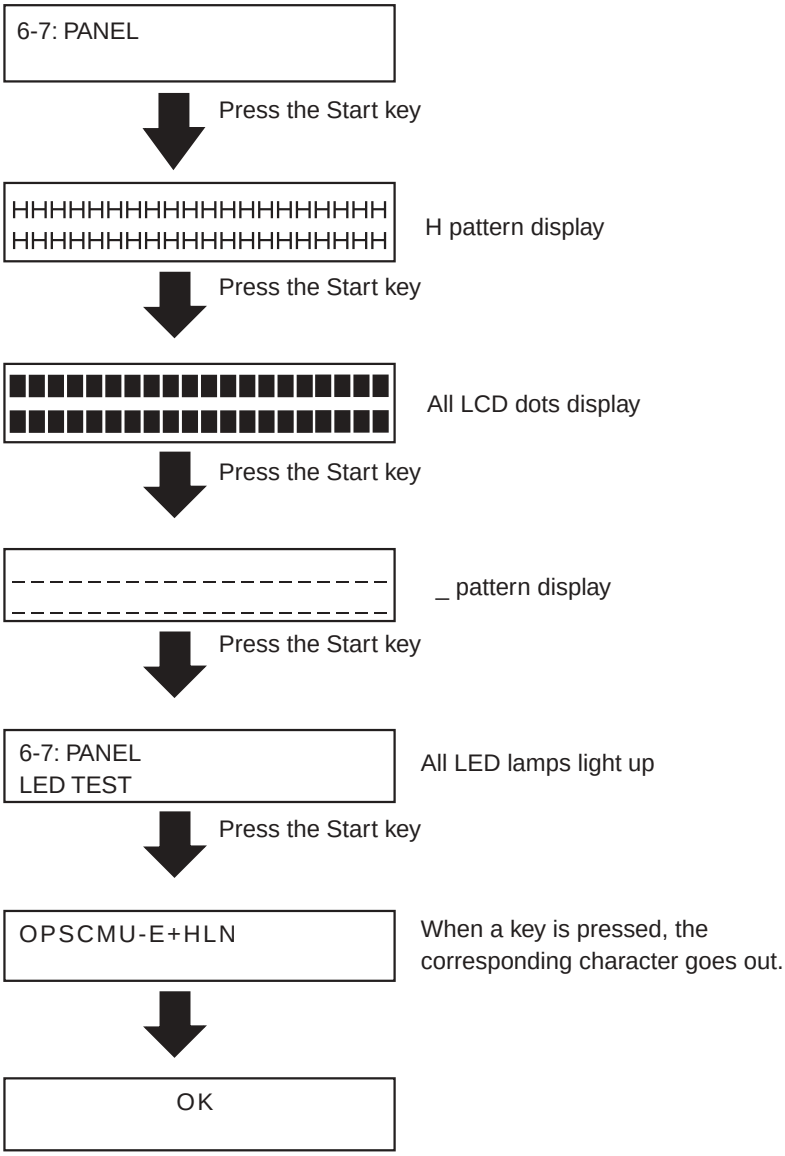
Press the Start key to select the Operation key test after the LED lamp test is complete.

In this test, you press the key corresponding to the displayed character to put it out. The table giving the correspondence between the characters and the keys is shown below.

T-5-3

Character	Operation key	Character	Operation key

O	ON/OFF key	C	Copy key
S	Scan key	P	Photo key
M	User Mode key	U	Menu key
H	Photo Index Sheet key	-	◀ key
+	▶ key	E	Set key
N	B&W key	L	Color key



Press the Stop/Reset key to end the test.

F-5-8

5.6.7 PRINTER test

0003-3092

Select 8:PRINTER TEST from the test mode menu by pressing the ◀▶ keys, and then press the [Set] key. Select 8-3:EEPROM CLEAR, and the press the [Set] key. Select [0] INK COUNT, and then press the [Set] key to reset the waste ink capacity.

Note:
Be sure to reset waste ink capacity only when replacing the waste ink absorbing material to a new one. If waste ink capacity is reset in other situations, it may result in faulty caunt.

5.6.8 FLASH ROM UPDATE

0003-2995

Select FLASH ROM UPDATE from the test mode menu.
Version upgrade of Main ROM and Printe ROM will be performed in this test.

1. MAIN ROM

(1) Performing Version Upgrade from the computer

Note:
Please perform the version upgrade on Windows 2000-based computer.

---

a) Select [9] FLASH ROM UPDATE from the test mode menu, and then press the [Set] key.
b) Select [9-1] FOR MAIN ROM, and then press the [Set] key. Select [9-1-1], and then press the [Set] key.
c) Connect the machine and the computer with USB cable, and wait for the [Please Send Data] message to appear on the LCD of the machine.
d) Execute winparausb.exe after the [Please Send Data] message is displayed.
e) Direct the output to Port Direct.
f) Press the [Open] key to select ROM's binary file (ex. WLD-05-02.bin), and then press the [Send] key.
g) Copy Mode LED will flash when writing of ROM data is complete.
h) Turn the machine OFF and ON, and then select #9 ROM from the service mode to verify the ROM version.
i) Execute All Clear by selecting #8 CLEAR from the service mode.

⚠

After All Clear is executed, select the model and destination from #5 TYPE in the service mode to change the

settings according to the destination.

(2) Version Upgrade from Memory Card

Note:
Be sure to use a memory card with 16M or more space to perform version upgrade.

a) Write ROM's binary file onto the root directory of memory card.
b) Insert the memory card that contains ROM's binary file into the card slot of the machine.
c) Select [9] FLASH ROM UPDATE from the test mode menu, and then press the [Set] key.
d) Select [9-1] FOR MAIN ROM, and then press the [Set] key. Select [9-1-2], and then select the [Set] key.
e) Select the file version to write after the main ROM's binary file stored in the memory card is displayed on the LCD, and then press the [Set] key.
f) Copy mode LED will light when writing ROM data is complete.
g) Turn the machine OFF and ON, and select #9 ROM from the serive mode to verify the ROM version.
h) Execute All Clear from #8 CLEAR in the service mode.

⚠
After All Clear is executed, select the model and destination in the service mode #5 TYPE to change the settings according to the destination.

2. Printer ROM

(1) Version Upgrade from the Computer

Note:
Be sure to use the Windows 2000-based computer to perform version upgrade.

a) Select [9] FLASH ROM UPDATE from the test mode menu, and then press the [Set] key.
b) Select [9-3] PRT ROM (all), and then press the [Set] key. Select [9-3-1], and then press the [Set] key.
c) Connect the machine and the computer by USB cable, and wait for the [Please Send Data] message to appear on LCD.
d) Execute winparausb.exe after the [Please Send Data] message is displayed.
e) Direct the output to Port Direct.
f) Pree the [Open] key to select ROM's hex file (ex. FW-V103L.hex), and then press the [Send] key.
g) Copy Mode LED will light when writing ROM data is complete.

h) Turn the machine OFF and ON, and then select #9ROM from the service mode to verify the ROM version.

i) Execute All Clear from #8 CLEAR in the service mode.

After [All Clear] is executed, select the model and destination in the service mode #5 TYPE to change the settngs according to the destination.

(2) Version Upgrade from Memory Card

Note:
Be sure to use a memory card with 16M or more space to perform version upgrade.

a) Write ROM's binary file onto the root directory of memory card.

b) Insert the memory card that contains ROM's hex file into the card slot of the machine.

c) Select [9] FLASH ROM UPDATE from the test mode menu, and then press the [Set] key.

d) Select [9-3] PRT ROM(all), and then press the [Set] key. Select [9-3-2], and then select the [Set] key.

e) Select the file version to write after ROM's hex file stored in the memory card is displayed on the LCD, and then press the [Set] key.

f) Copy mode LED will light when writing ROM data is complete.

g) Turn the machine OFF and ON, and select #9 ROM from the service mode to verify the ROM version.

h) Execute All Clear from #8 CLEAR in the service mode.

After [All Clear] is executed, select the model and destination in the service mode #5 TYPE to change the settings according to the destination.

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6.1 Main Body

6.1.1 Installation

0002-0817

Reference:
This machine is to be installed by a user, so this service manual contains only a briefing of installation procedures. Please refer to the Set-up Sheet enclosed in the package of the machine for more details.

* Check an installation space.
* Unpack the machine, and check the attachments
  Make sure none is missing and there is no damage.
* Remove the package material
  Remove all tape and protective material used on the machine.
* Turn on the power
  Connect the power cord. If the machine is not turn on, press [ON/OFF] to turn on the machine.
* Load paper
  Place a stack of paper in the multi-purpose tray.
* Install the printhead
  Remove the protective cap, and then install the printhead into the holder.
* Install the ink tanks
  Pull the tape and remove the protective cap, and then install the ink tanks. After install, align the printhead.

6.1.2 Checking Operation

0002-0824

* Check the level of quality for both reading and printing.
  Make a copy, and see if it is free of a fault for both reading and printing.

⚠

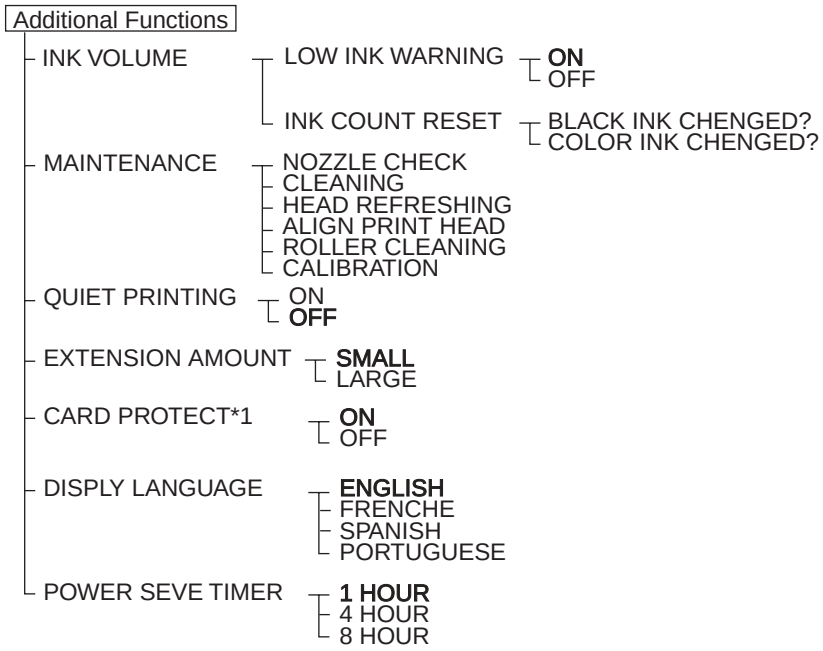
What to do when trouble occurs

Very rarely, during use, the display may go out, all the buttons may stop working, or some other trouble may occur because of strong electrical noise or a large amount of static. If such trouble occurs, execute 'All clear'.

6.2 User Data Flow

6.2.1 User Mode Menu Setting

0002-8264

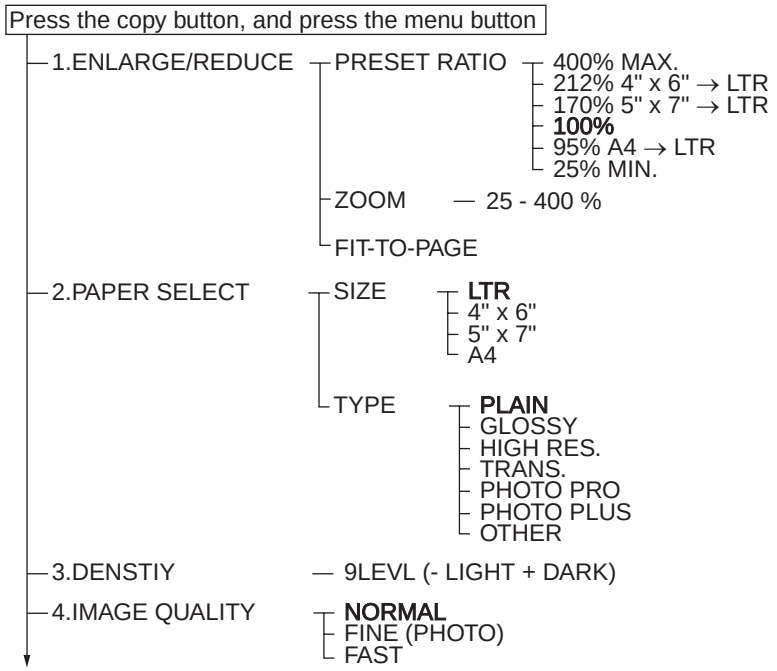


*1 MP370 only

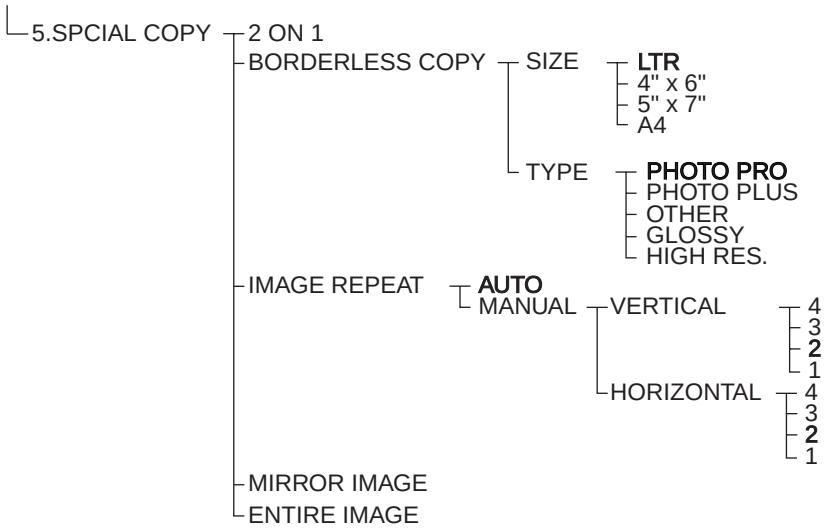
F-6-1

6.2.2 Copy Mode Menu Setting

0003-0193



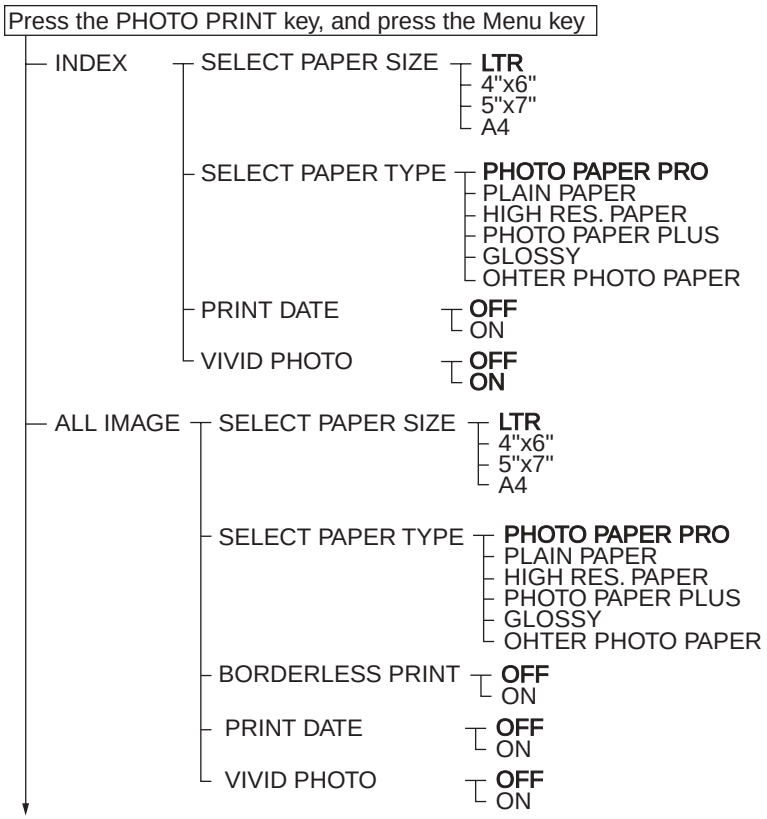
F-6-2



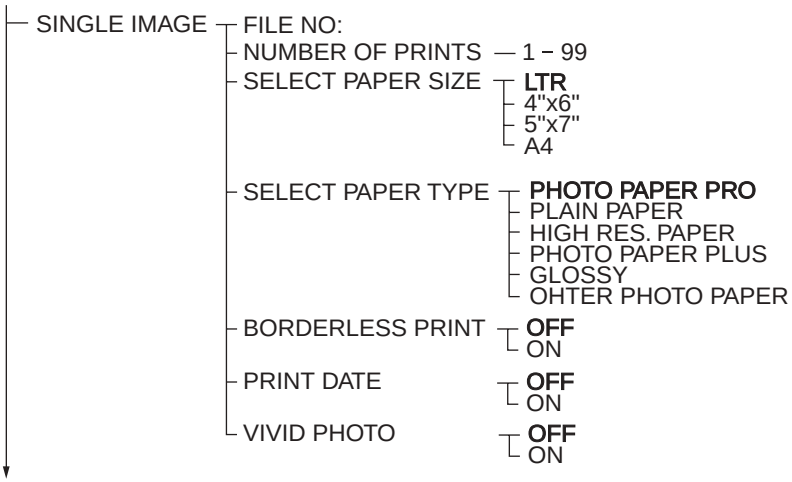
F-6-3

6.2.3 Photo Print Mode Setting

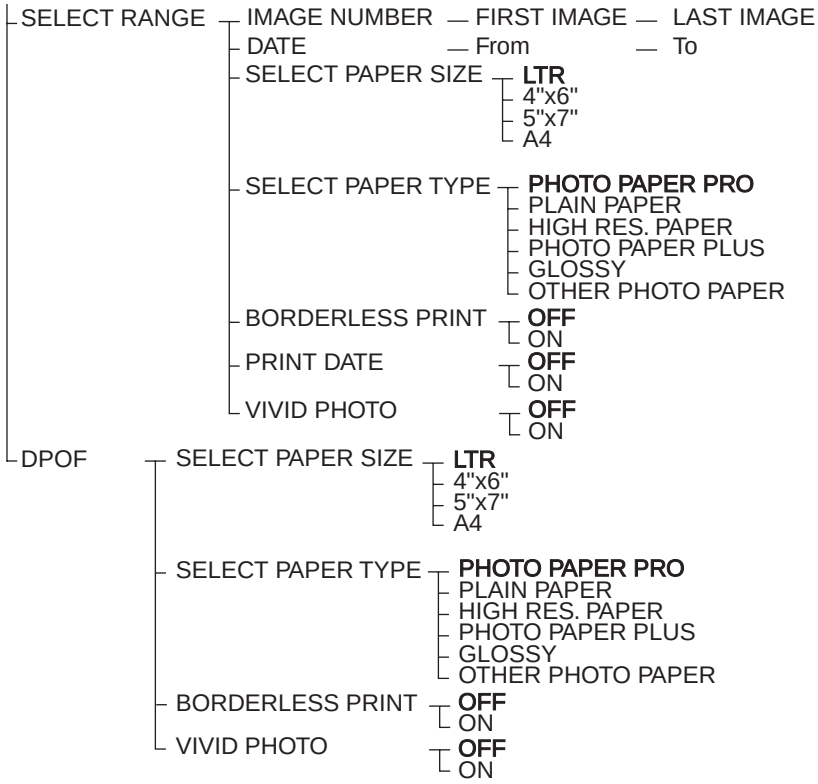
0003-0194



F-6-4



F-6-5


SELECT RANGE
IMAGE NUMBER
FIRST IMAGE
LAST IMAGE
DATE
From
To
SELECT PAPER SIZE
LTR
4"x6"
5"x7"
A4
SELECT PAPER TYPE
PHOTO PAPER PRO
PLAIN PAPER
HIGH RES. PAPER
PHOTO PAPER PLUS
GLOSSY
OTHER PHOTO PAPER
BORDERLESS PRINT
OFF
ON
PRINT DATE
OFF
ON
VIVID PHOTO
OFF
ON
DPOF
SELECT PAPER SIZE
LTR
4"x6"
5"x7"
A4
SELECT PAPER TYPE
PHOTO PAPER PRO
PLAIN PAPER
HIGH RES. PAPER
PHOTO PAPER PLUS
GLOSSY
OTHER PHOTO PAPER
BORDERLESS PRINT
OFF
ON
VIVID PHOTO
OFF
ON

F-6-6

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